DOCUMENT RESUME

ED 133 436 CE 007 768

AUTHOR	Phelps, L. Allen
TITLE	Competency-Based Inservice Education for Secondary School Personnel Serving Special Needs Students in Vocational Education: A Formative Field Test Evaluation. Final Report.
INSTITUTION	Illinois Univ., Urbana. Dept. of Vocational and Technical Education.
SPONS AGENCY	Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C. Div. of Research and Demonstration.
REPORT NO	VT-103-519
BUREAU NO	498AH50048
PUB DATE	30 Jun 76
CONTRACT	OEG-00-750-0386
NOTE	401p.
EDRS PRICE	MF-$0.83 HC-$22.09 Plus Postage.
DESCRIPTORS	*Curriculum Evaluation; Evaluation Criteria; Formative Evaluation; Higher Education; *Inservice Teacher Education; Instructional Materials; Learning Modules; Material Development; Performance Based Teacher Education; Program Descriptions; Program Effectiveness; Secondary School Teachers; *Special Education; Special Education Teachers; *Teacher Education Curriculum; Teaching Skills; *Vocational Education; Vocational Education Teachers

ABSTRACT

A detailed formative evaluation was conducted on a series of seven competency-based inservice modules designed for use by currently employed vocational and special educators. The topics of the module series focused on instructional development and on coordination of services and programming for special needs students in secondary programs. A series of major questions was developed which addressed the evaluation of the competencies included in the modules, formative interim evaluation, and product-outcome evaluation. Evaluation information was gathered from six separate sources: A panel of experts, field test participants, local program administrators, relevant documents, participant-observers, and the products developed by the field test participants. Formative evaluation data were gathered for each module and analyzed at three levels: Microanalysis, macroanalysis, and a more global assessment of the series and of selected aspects of the delivery systems used in the inservice field test. The report includes a literature review, description of methods and procedures, and presentation of findings with summary and recommendations. The appendix (one-third of the document) contains the various evaluation instruments, description of modules, and other related material. (NJ)

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ED133436

FINAL REPORT

Project No. 498AH50048
Grant No. OEG-00-750-0386

COMPETENCY-BASED INSERVICE EDUCATION FOR SECONDARY SCHOOL PERSONNEL SERVING SPECIAL NEEDS STUDENTS IN VOCATIONAL EDUCATION: A FORMATIVE FIELD TEST EVALUATION

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VT-103-519

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CE 007 768

PREFACE

During the last decade, the field of education has become more concerned with providing expanded opportunities for handicapped and disadvantaged individuals. The focus of this thrust has been to help these individuals acquire skills that will enable them to achieve success in their occupational life role, which will result in their personal, economic, and social independence.

The Vocational Education Act of 1963 and the subsequent 1968 Amendments specifically recognized the importance of serving the needs of all students through vocational education. Specifically included in this focus on serving all students are those individuals with special educational needs who could not benefit from vocational education as it has been traditionally designed.

Recently vocational education has come under fire for not developing to the fullest extent possible its commitment to serving individuals with special needs. One frequently cited area of concern is the lack of preservice and inservice teacher education programs emphasizing service to special needs learners. This project was designed to respond to one area of this concern - inservice teacher education. This project focused on the formative evaluation, revision and production of a set of inservice teacher education modules designed to enhance the instructional development competencies of vocational and special educators. In addition to generating a useful set of inservice teacher education resource materials, a number of guidelines and suggestions for the development, evaluation, and revision of small-scale instructional products were developed.

The author wishes to thank a number of individuals for their assistance in the conduct of this project. The efforts of Dr. Lloyd Phipps, who served as project director, are greatly appreciated. The interest, cooperation, and enthusiasm expressed by the administrators and field test participants in both of the participating school districts contributed immeasurably to the completion of the research. The Expert Review Team, which was composed of 32 vocational and special educators in different teaching, administrative, and research roles, provided extensive analyses of the materials in their various stages of development. Professors Rupert Evans, Stephen Lilly, and Ernest House, all of the University of Illinois, and Tim Wentling of the University of Minnesota, all contributed unique perspectives and assistance in their role as project advisors. Appreciation is also extended to Jerilyn Dolan who served as the participant-observer during the field testing and authored the external teacher portrayals presented in the appendix.

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I. INTRODUCTION

Orientation to the Problem

Education for "the good life" has been a basic philosophical tenet in the United States since the mid nineteenth century (Young, et al., 1969). The "good life" has been defined differently by various groups over the years, but a commonly held view is that independent, economic viability is basic to the good life for all individuals.

Education leading to an independent occupational role has been a major part of the educational endeavors in most free societies. Furthermore, individuals living in most societies are expected to work and contribute to the economic productivity of the commonwealth. British philosopher James Mackintosh has expressed a basic belief of many that: "The wealth of society is its stock of productive labor" (Groves, 1966).

Maximization of the development and use of both natural and human resources is a critical input factor in the total economic development process. More recently, it has been suggested that sustained and expanded levels of economic productivity are highly dependent upon maximizing the development of available human resources. Kenneth Clark (1963) wrote that:

> It is now axiomatic that trained human intelligence is the most valuable resource of a civilized nation. Like other natural resources, it must be discovered and transformed creatively into its most effective and usable form (p. 144).

When viewed in its broadest context, vocational education plays an important and critical role in the development of human captial. The variety of occupational competencies and specialized training provided through different types of vocational education has often been described as providing the trainee with "marketable" skills. Specific occupational competencies, when combined with the necessary general and academic elements of education, can lead individuals to productive, satisfying, and meaningful work roles within the socio-economic system.

Individuals who choose not to or are incapable of contributing to the socio-economic system are viewed as economic liabilities. Over the years, several groups of individuals have come to be viewed as socio-economic dependents for a variety of reasons. Handicapped and disadvantaged individuals, because of their deviation from what is considered normal behavior, physical appearance, or educational attainment, have been devalued by others (Meyerson, 1971). Many times this devaluing occurs, in part, because these individuals are viewed as economic liabilities, and as being far less capable than is really the case (Gold, 1972).

Recently, the economic costs associated with this waste of human potential have been brought to the public's attention. Edwin Martin (1971), Associate Commissioner of the U.S. Office of Education, Bureau of Education for the Handicapped, has expressed quite clearly the economic liabilities which may be expected to result from underdevelopment of the school-age handicapped population.

> Over the next four years, 2.5 million handicapped children will be school leavers either by graduation or the drop-out route. Of that number, less than 1 in 4 will be fully employed or going on to college. Another 40%, that is one million handicapped young people, will be under-employed. Another 25% of this population will probably require welfare assistance.
>
> If each of these youngsters is faced with institutionalization as an alternative to public school programming, the cost will be at least $4000 per year. Over a lifetime of 60 years, that is approximately a quarter of a million dollars per student (p. 5).

The average annual costs for providing effective vocational education programs are considerably less than the costs of not providing such opportunities. Cost information on vocational programming for handicapped students collected in a national study of 92 different vocational education programs indicated that the combined federal, state, and local cost for each student who completed a program was approximately $2,400. The combined cost for those who enrolled, but did not complete was approximately $1,270 per student (Olympus Research Corporation, 1975). A national study of 14 exemplary vocational education programs for ethnic minority youth indicated that the average annual cost per student ranged from $630 to $2000 for programs with a mean length of two years. The dropout rate in those programs studied ranged from 6% to 16.5% (Contemporary Research Incorporated, 1974b).

In the early 1960's, advocates of the handicapped and disadvantaged began to impress upon Congress the need to reconsider this waste of human potential from both an economic and humanitarian viewpoint. Various pieces of legislation such as the Vocational Rehabilitation Acts and the Development Disabilities Act were developed in response to the problem. The various civil rights acts also had beneficial affects for these groups. The Vocational Education Act of 1963, however, was the first legislation to specifically charge vocational education with the responsibility fo providing vocational programming for the handicapped and disadvantaged. This landmark legislation first identified special needs students as those individuals having academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program.

"After four years had passed, however, this general legislative charge had produced few new opportunities for handicapped individuals" (Olympus Research Corporation, 1975). In the 1968 Amendments to the Vocational Education Act, Congress required that each state spend 25% of its basic federal grant for vocational education exclusively to finance ". . . special educational programs and services designed to enable disadvantaged and handicapped persons to achieve vocational education objectives that would otherwise be beyond their reach as a result of their handicapping condition" (Vocational Education Amendments of 1968, Section 102.6a). Of the basic grant, 15% was to be spent on programs for the disadvantaged, while 10% was to be spent on vocational programs serving the handicapped. These "set-asides" earmarked approximately $20 million each year for vocational education of these groups.

In addition to this specific legislative emphasis, federal agencies such as the Bureau of Education for the Handicapped recently have begun to focus their efforts in this area. With a supporting rationale that handicapped members of the population can and should become competitive in the job market and contributing members of the community, the Bureau has adopted the following as one of its national goals:

> Assure that by 1977, every handicapped child who leaves school has had career educational training relevant to the job market, meaningful to his career aspirations, and realistic to his fullest potential (U.S. Department of Health, Education, and Welfare, 1973, p. 1).

This legislative and federal agency emphasis has been accompanied by an expanded advocacy trend focusing on the rights and education of the handicapped. Gold (1975) notes that this country is now experiencing an unprecedented age of advocacy and awareness. The creation of new governmental agencies, the passage of new state and federal legislation, and numerous successful litigations have created a societal context for the handicapped and disadvantaged which is totally different than in any period heretofore. The basic rights of handicapped individuals to education have been supported by the passage of mandatory special education laws in all but six states, and landmark litigations, such as the case involving the Pennsylvania Association of Retarded Citizens (P.A.R.C.) and the State of Pennsylvania are occurring repeatedly. This movement has resulted in numerous, comprehensive requirements for public education agencies to provide services to all school-age individuals (Gold, 1975).

Problems in Education of the Handicapped

Recent evaluative reports and studies have found numerous problems associated with attempts to implement federal and state mandates requiring educational programs and services for the handicapped. Significant problems have been cited in a broad range of areas, including nonpermanent funding arrangements such as revenue sharing, lack of consistent data, inadequate information systems, and inconsistency in policy and priority determination.

A recent General Accounting Office (GAO) report (1974) finds that some basic problems are to be found in the expenditure, or lack thereof, of federal vocational education funds for the handicapped and disadvantaged.

> Annually, about half of the States spend less than, or only about, 15% (of the required set aside funds) for the disadvantaged, and more than half of the States annually spend less than, or only about 10% for the handicapped (p. 15).

Office of Education officials and state directors of vocational education involved with the GAO study suggest that varying the uncertain levels of federal and state financial support make it difficult to develop programs to deal effectively with the problems of this school population (General Accounting Office, 1974). The specific problems are too involved to be presented here, but it is reasonable to conclude that the multitude of funding and expenditure problems have been a major factor in limiting the extent to which vocational programs and services have been made available to the handicapped and disadvantaged. For example, while a total of 115,403 handicapped and disadvantaged students enrolled in occupational education programs in the State of Illinois in fiscal year 1974, this figure represents service to only about 4.2% of the state's total school-age and adult handicapped and disadvantaged population (State of Illinois, 1975).

A number of additional problems related to the appropriateness of available programs have been cited by the U.S. Senate Committee on Labor and Public Welfare (1974).

> The Committee is concerned that handicapped and other educationally disadvantaged children are often prepared for careers which do not maximize their abilities thus leading to underemployment, unemployment, and undercontribution to society. Also, it is the Committee's belief that every individual can participate in society, but that there are individuals who because of certain handicapping conditions might participate to a lesser degree than others. The term full participation means that individuals should be prepared through career education to participate in society to the maximum degree to which their abilities permit.
>
> Experience with vocational education and vocational rehabilitation has demonstrated that handicapped individuals often do not have available to them the wide variety of vocational training options that are available to other individuals. This situation is caused by the unwillingness of present delivery systems for the non-handicapped to modify their physical and educational environments so that the handicapped can participate, and also by the belief that handicapped children and youth should be educated in separate settings (pp. 75-76).

There are several operational problems that exist which educators can influence or control more readily than they can legislative provisions or funding levels. Several of these operational problems have been documented in state as well as national studies reviewing and analyzing program operations at a local level. The basic operational problems appear to be focused on two broad areas: personnel development and curriculum and instructional development.

Personnel Development

In the federal Vocational Education Research Program for fiscal year 1975, the U.S. Office of Education (1974) listed personnel development for educators working with special needs students as one of their five research priority areas.

> Educational personnel who administer programs, teach, and who serve the educationally disadvantaged, handicapped, and minority populations need special motivational awareness and instructional service oriented skills in order to assist young men and women to succeed in vocational awareness, exploration and preparation programs (p. 8).

The authors of the 1968 Amendments to the Vocational Education Act also recognized the importance of preservice and inservice education in providing qualified personnel. Section 102.9 suggests that:

> Such training shall be sufficient to provide an adequate supply of qualified teachers and other personnel, including those capable of meeting the special educational needs of disadvantaged and handicapped persons in the State.

The recognition of numerous problems has brought about the focus on and created the need for personnel development programs in this area. These problems have included, but have not been limited to, the availability of appropriately trained personnel, the attitudes of regular teachers toward teaching the special needs student, lack of coordination in delivery of programs and services, and fragmentation in the approach to preservice personnel preparation programs.

A national assessment of vocational education programs for the handicapped found that:

> One of the most often mentioned constraints limiting the expansion of vocational education programs for the handicapped was the reluctance of teachers in regular classrooms to accept the handicapped, or the inability of teachers to instruct handicapped students. Thus teacher training in special education techniques was considered a necessity, not only to help affect program expansion, but also to improve program quality (Olympus Research Corporation, 1975, p. 44).

The U.S. Department of Health, Education, and Welfare (1973) suggests that special educators need to obtain and demonstrate some new competencies as well:

> A challenge of considerable magnitude facing today's special educator is to investigate critically and consistently employment possibilities for the

> handicapped in today's expanding job market, and to enrich training programs to equip such persons with appropriate, meaningful, and realistic job skills and competencies (p. 1).

As Evans (1975) points out, part of the problem rests with the present personnel training focus in both fields.

> Most universities which train vocational teachers also have special education departments which have expert knowledge of how to teach the handicapped. Unfortunately, the vocational education departments are concerned almost entirely with adolescents and adults, while the special education departments are mostly concerned with younger children. Both would benefit from joint programs to train vocational education teachers and counselors who know how to work with handicapped persons (p. 7).

In testimony before the House of Representatives Subcommittee on Elementary, Secondary, and Vocational Education, Evans (1975a) goes on to acknowledge that a far greater proportion of disadvantaged students are served by vocational education than any other high school curriculum, but that vocational teacher education programs seldom prepare their graduates to recognize or help the disadvantaged students they teach every day. Feck (1971) also noted that there have been few teacher education programs or courses in teacher education focusing on meeting the needs of disadvantaged youth.

Kruppa (1973) notes that in the past, vocational and special education teachers have gone their separate ways with little or no coordination of efforts. Little emphasis has been given to the importance of coordinated vocational-basic academic instruction for the special needs student in teacher education programs. Consequently, practicing vocational and special educators seldom work together, principally because they don't know how to do so.

Gallagher (1969), Wrobel (undated) and Reynolds, et al. (1973) have all addressed and effectively operationalized working coordination relationships between vocational, special, and rehabilitation personnel in secondary public school programs.

In a proposal for a teacher training inservice grant, Evans, Clark, and Phelps (1975) noted that effective coordination relationships are feasible theoretically, but very difficult to put into practice.

> Even though cooperative projects have been funded and cooperative agreements written, the benefits of these activities have not been widely recognized, accepted, and put into practice. Teachers, counselors, consultants, coordinators, and other prospective members of the habilitation team need to overcome the personal, professional, and organizational barriers and biases which prevent and inhibit the implementation of coordinated, articulated educational experiences. Teacher education and other personnel preparation programs must focus on preparing professionals to recognize and operationalize their "team" role. Leadership provided by the teacher educators in this area is essential to promote acceptance and practice of the team concept for delivery of programs and services (p. 6).

Incidence statistics on joint teacher education programs were collected by Kruppa (1973) in a national survey of 160 colleges and universities offering industrial teacher education programs. Only 11 institutions offered programs designed to prepare teachers to work with special needs students. Several of these 11 were limited in scope, and in only five of the institutions was the program available to both graduate and undergraduate students. Only seven other institutions indicated that, while there was no formal industrial-special education program, advisement permitted students to take some course work in special education areas.

An additional problem pointed out by the Kruppa survey, as well as by a review of the professional literature, is the fragmentation of programs. Numerous journal articles, as well as several of the institutions in the Kruppa survey focused on specialized areas such as industrial education for the mentally retarded. Gallagher (1969) notes that:

> It is clear that there are more programs for the mentally retarded in vocational education than for other handicapped children. There are few programs designed for the seriously emotionally disturbed or for those who have minor neurological problems (p. 8).

Moreover, these programs tend to emphasize only a small part of vocational education, e.g. home economics or trade and industrial education. It would appear that greater numbers of students would be served if teacher education programs could be comprehensive in both vocational and special education. Such programs would attract and interest greater numbers of professionals who may be interested in working in either general and specialized programs of vocational education for special needs students.

As Young, et al. (1969) suggest, the importance of personnel in providing vocational programs for special needs students cannot be overlooked: ". . . experience teaches (us) that even the best of programs are dependent on the quality of personnel available to conduct them" (p. 69).

Instructional and Curriculum Development

Effective programs for the handicapped and disadvantaged are frequently dependent upon the use of individualized curriculum materials and specialized instructional techniques. The literature suggests that numerous problems are associated with this aspect of program operation.

"Basic, applied, and comparative research in the area of instructional systems for the handicapped is urgently needed" (Olympus Research Corporation, 1975, p. 50). Journal articles and project reports suggest that teachers and employers are often hesitant to work with or supervise special needs students because they feel they lack the knowledge of "how" to teach or supervise them effectively. At the same time, teachers and employers frequently do not know "what" a particular student can learn, and need individualized materials or some means of determining this empirically.

Instructional personnel in vocational programs commonly express commitments to individualized instruction, but such commitments are seldom translated into actual practice much beyond the notion that "hands-on" vocational experiences are individualized to some extent by their very nature (Olympus Research Corporation, 1975). This conclusion was also supported by a national study of vocational education programs for ethnic minority students conducted by Contemporary Research Incorporated (1974):

> Individualized instruction was overwhelmingly identified as the most effective method of instruction; however, few programs have fully mastered the art of individualizing instruction (p. 18).

After reviewing the existing research and literature on vocational habilitation of the retarded, Gold (1972) concludes that there is generally ". . . a lack of definable training techniques. Perusal of the literature reveals hundreds of descriptions of training programs which yield no evidence of specific techniques for developing vocational behavior" (p. 3).

Closely related to the instructional problem is the problem of curriculum development. Curriculum materials which would facilitate individualized instruction are necessary if handicapped individuals are to be integrated into classes with the nonhandicapped (Olympus Research Corporation, 1975). A great deal of such material has been produced through research projects, the efforts of individual teachers, and commercial publishers but these products are not disseminated or used widely.

Inservice Education

As suggested earlier, there is a critical need for programs designed to prepare personnel to work effectively with special needs students in vocational education. Such preparation commonly takes place on either a preservice or an inservice basis. Much of the literature in this area focuses upon different needs and approaches in providing personnel training on an inservice basis, which will likely have more of an immediate effect upon increasing the availability of programs and services to students with special needs at all levels.

Young, et al. (1969) offer two key ideas regarding the design of inservice programs. First, they urge the use of inservice teams which can concentrate on program development.

> If undertaken creatively, such teams can serve to upgrade personnel and accomplish necessary program changes. Curriculum revisions, program planning, case studies, and other important projects can facilitate inservice education (pp. 71-72).

Effectively designed inservice approaches can readily identify and fulfill the needs and interests of local personnel.

Second, Young and his colleagues suggest that inservice programs should be coupled with university and college programs. Cooperative inservice programs of this type can provide the often-needed external leadership or facilitator to provide the incentives needed for implementing new ideas and program changes.

Bobbitt (1971) suggests further that the present inservice needs appear to be: (1) to sensitize vocational educators to their responsibility for serving special needs students; (2) to help teachers acquire the attitudes, understandings, and skills needed to effectively teach these students; and (3) to help teachers recognize students within their existing classrooms and provide supportive assistance in improving programs and services for these students.

Inservice programs for teachers of ethnic minority students require an even heavier emphasis on attitude adjustment. Contemporary Research Incorporated (1974) found that attitudes and expectations of staff toward ethnic minority students enrolled in vocational education programs ". . . have the greatest impact on student motivation" (p. 14). The report goes on to conclude that inservice training geared to local school needs is sorely needed, and should include: (1) an assessment and understanding of minority student needs; (2) program planning based on student needs; and (3) individualized instruction.

Evans (1975) recommends that inservice programs designed to focus on special needs students be expanded beyond short-term efforts which tend to promote only an understanding that a problem exists, to include more long-term programs designed to produce expertise in handling the problems.

Statement of the Problem

The issues related to inservice education for personnel serving special needs students in vocational education are numerous and diverse. Based on the preceding overview, the most immediate and significant problem appears to be the development of means for effective utilization of currently employed vocational and special education personnel in providing instructional programs and services for special needs students in the local program setting.

Purpose of the Study

The purpose of this study was to conduct a detailed formative evaluation of a series of seven competency-based inservice modules, and to suggest necessary and appropriate revisions to the modules based on the resultant data analysis. It was not the purpose of this study to assess the impact of the modules on the school personnel or the local districts in which they were field tested.

This series of modules (described in Appendix A) addressed the common role functions for instructional and support personnel providing vocational programs and services for special needs students at the secondary level. Specifically, the purpose of this study was to conduct a three-phase formative evaluation of the utility and feasibility of the modules. The three sequential phases of the study included: evaluation of a preliminary list of needed staff competencies, developmental formative evaluation, and product/outcome evaluation of the modules (Sanders and Cunningham, 1972).

The role functions used as a conceptual basis in designing the modules were: needs assessment, planning, implementation, and evaluation. Schoonmaker and Girard (1975) utilized this role function framework in the identification of competencies to serve as a basis for the training of habilitation personnel. Borgen and Davis (1974) used a modified version of the framework in the Illinois Occupational Curriculum Project. Their use of the framework combined the needs assessment function with the planning function.

Conceptually, this framework is also very similar to the well known decision-based CIPP evaluation model developed by Stufflebeam (1971). The functions of needs assessment, planning, implementing and evaluating are very similar conceptually, as well as sequentially, to the context, input, process and product decision components of the CIPP evaluation model.

The role function framework provided a basis for the preliminary identification of competencies needed by personnel in carrying out their professional roles of assessing, planning, implementing and evaluating instructional programs and services for special needs students in vocational education. The competencies served as the basic content of the inservice program.

An extensive review of other inservice oriented teacher education materials provided several alternative format considerations. A preliminary format for the modules was designed, and the content and structure of each module was based upon the nature of the information needs of practicing vocational and special educators.

A basic intent was to design the inservice modules for both flexible and multiple use. Flexible use involved making the modules, to some extent, independent of each other, but also having them collectively provide a comprehensive unit of inservice instruction. Prospective inservice participants or inservice directors were to select and use single or multiple modules which were of particular interest in the local program setting. The multiple-use intent was to reflect the potential for different inservice approaches or modes of utilization. It was anticipated that specific inservice modes might find teachers or other personnel using the modules on an independent basis, perhaps in a correspondence course, while in other situations the inservice modules would serve as resource materials for a short-term inservice workshop, an extension course for university credit, or in various other small group or individual inservice delivery models.

Major Evaluative Questions

Major formative evaluation questions for the study were identified in three areas. Each of the areas represented one of the formative evaluation phases proposed by Sanders and Cunningham (1972). The major formative evaluation questions examined in the study are listed below.

Activity One: Evaluation of the Preliminary Competencies.

1. Which of the identified competencies are important or extremely critical to planning, implementing, and evaluating instruction for special needs students?
2. Which of the competencies are uniquely appropriate for selected personnel (i.e. vocational instructors, special education teachers and consultants, counselors and cooperative or work-study coordinators)?
3. Which competencies are performed most frequently (as reflected by instructional practices) by personnel in different educational settings (e.g. comprehensive high schools, middle schools or junior high schools, and area vocational centers)?

4. What additional competencies should be included in the modules?
5. To what extent do secondary school personnel enrolling in the inservice workshops already utilize the instructional practices suggested by the identified competencies?

Activity Two: Developmental Formative Evaluation.

1. To what extent is the module format appropriate for inservice teacher education?
2. To what extent does the supportive information and content of each module provide for accomplishment of the objectives?
3. To what extent is it feasible for secondary school personnel to implement the suggested instructional development model presented in the modules?
4. Which inservice approach from among the two utilized is most conducive to module-based inservice teacher education?
5. What is the optimum time frame required for completion of each module in the different inservice approaches?
6. Which competencies should be reassigned to different modules?
7. In what other types of inservice delivery systems could the modules be used effectively?

Activity Three: Product/Outcome Evaluation.

1. To what extent did the participants report spending more time performint the identified competencies following the field test?
2. How do the field test participants and a panel of experts view the general worth of the inservice experiences provided by the modules?
3. To what extent did the modules facilitate professional communication, and what were the perceived problems and benefits?
4. To what extent are the module inservice experiences focused on individual special needs learners or local program needs?

5. To what extent are different groups of educators receptive to this series of modules?

Limitations

This formative evaluation study, with its absence of experimental controls, reflected the interests of the director in formatively evaluating a set of unique inservice materials as one means of facilitating critically needed personnel development activities in the field of vocational education for special needs students.

A rather substantial limitation in this study was the short period of time following the inservice field testing before follow-up data were collected. Due to the restrictive time frame of the grant, collection of the follow-up data at each of the field test sites was initiated two months after completion of the field test inservice course. It is likely that this was an insufficient amount of time for new personnel behaviors and program changes to manifest themselves substantially relative to the classroom performance of the participants in their respective programs.

School districts selected for participation in the field test evaluation were selected from several who expressed an interest in participating. Schools were selected on a nonrandom basis, based upon endorsement and support of the proposed inservice program by both vocational and special education administrators, approval of participation by the superintendent, and a minimum participation of ten secondary teachers and/or coordinators with representation being from both vocational and special education.

All instructional and resource materials used by the inservice participants were provided at no cost to the participants which may limit the generalizability of some of the findings. In addition, one unit of university extramural graduate credit was available to all eligible inservice field test participants. The tuition and fees for 28 participants were reimbursed in full upon successful completion of the course. The reimbursement for tuition was provided primarily as an incentive for participation in follow-up interviews and other evaluation activities which are a critical part of the total formative evaluation design.

A final limitation involved the restrictive time frame for completion of the inservice module activities by those participants using the materials on an independent basis. Again, due to the restricted time period of the grant, the participants were asked to complete all activities within a 12 week period of time, from early October to mid December.

Definition of Terms

Special Needs Student: An individual student enrolled in a secondary school program who exhibits special learning and/or behavioral problems that require special services and special consideration by his teachers.

Inservice Module: A set of written instructional materials, which were designed prior to the formative evaluation, for secondary school personnel to use individually or in small groups to increase their ability to plan, implement and evaluate coordinated instructional programs for special needs students. The module includes introductory information, objectives, guidelines, resource materials and evaluative checklists for each activity. The seven inservice modules formatively evaluated in this study carried the following titles:

Module 1: Learner Identification and Analysis
Module 2: Cooperative Instructional Arrangements
Module 3: Instructional Resources
Module 4: Cluster and Content Analysis
Module 5: Instructional Planning

Module 6: Instructional Implementation

Module 7: Evaluation of Learner Progress

Instructional Development Process: A systematic process of: (1) assessing the needs of special students for vocationally oriented instruction; (2) planning the needed instruction; (3) cooperatively implementing and evaluating the planned instructional efforts.

Field Test School or Site: A school district where the prototype inservice modules were utilized and evaluated by teachers, consultants, and coordinators. One field test site utilized and evaluated the modules as part of a structured inservice course (Site B), while the other site (Site A) used the modules in an independent, small group inservice format.

Field Test or Inservice Participants: Secondary school personnel affiliated with the field test school who elected to participate in the inservice use and evaluation of the modules. Eligible participants received up to one unit of graduate credit for successful completion of all of the inservice modules.

Formative Evaluation: The process of judging a fluid process or product that can be revised as it is being developed. The results of formative evaluation studies are given to persons directly involved in the process of developing the product (Sanders and Cunningham, 1972).

II. REVIEW OF RELATED LITERATURE

The purpose of this study was to evaluate formatively a unique set of inservice teacher education materials. The content area to which the inservice curriculum is addressed, vocational education for special needs students, is an area which currently reflects specific shortcomings and a demonstrated need for inservice staff development activities. This was substantiated to a large extent in the introductory chapter. The goal of the formative evaluation was to improve the utility and effectiveness of the curriculum materials.

The primary focus of this literature review is upon four areas which relate to the issues confronted in assessing the content and effectiveness of competency-based, modular inservice materials. These areas include: competency-based teacher education, inservice delivery models, inservice instructional packages, and formative product evaluation.

The secondary focus of the literature review is upon the implications which the current research in special and vocational education holds for the curriculum content of the modules. This focus will also include the special considerations regarding the inservice approach which are attributable to the nature and problems of the content area.

Competency Identification and Validation

Performance or competency-based teacher education has received significant attention in recent years. The fundamental notion of competency-based teacher education is that the identification of operationally-defined teacher skills is related to increased student achievement, and should be utilized as a basis for the development of materials and programs for training teachers (Heath and Neilson, 1974).

A precursor to the competency-based movement in teacher education has been the identification, development, and use of student performance objectives (Gorman and Hamilton, 1975). The essential elements of performance-based instruction for students have been looked upon favorably by certain groups suggesting needed, fundamental changes in the traditional approaches to teacher education. Stanley Elam (1971) identified five essential elements of competency-based teacher education:

> 1. Teaching competencies to be demonstrated are role derived, specified in behavioral terms, and made public.
> 2. Assessment criteria are competency-based, specify mastery levels, and are made public.
> 3. Assessment requires performance as prime evidence, but takes knowledge into account.
> 4. [The teacher education] student's progress rate depends upon demonstrated competency.
> 5. Instructional program facilitates development and evaluation of specific competencies (p. 18).

Rosenshine (1974) finds that there have been very few attempts to summarize the current state of our knowledge on teaching competencies and that the present scientific base for teaching and teacher education is primitive. In addition, Travers (1975) notes several difficulties connected with defining and using the term "competency." The nondiscreteness of the term, the illusion of clarity, and the contemporary political advantages of the label have confounded much of the literature on competency-based teacher education in his view.

Most of the competency research appears to focus on identifying competencies which correlate with student achievement. Rosenshine and Furst (1971) studied the correlational research on 25 teaching competencies, and found nine variables that provide promising suggestions for future research:

1. Clarity of teacher's presentation
2. Variety of teacher-initiated activities

3. Enthusiasm of teacher
4. Teacher emphasis on learning and achievement
5. Avoidance of external criticism
6. Positive responses to students
7. Student apportunity to learn criterion material
8. Use of structuring comments by teacher
9. Use of multiple levels of questions or cognitive discourse (pp. 44-54).

Travers (1975) suggests that characteristics other than pupil achievement may be legitimate bases for determining a teacher's effectiveness. Conversely, there may be factors other than teacher behavior which influence student achievement. Heath and Neilson (1974) conclude, based on a systematic analysis of seven common characteristics in 42 competency research studies, that effects of techniques of teaching on achievement (as these are defined in CBTE research) are likely to be inherently trivial. They cite the well documented, strong association between student achievement and variables such as socio-economic status and ethnic status as the primary factors influencing student achievement.

Another problem related to competency-based teacher training programs is the problem of determining who is competent to determine the competencies. Shearron (1974) used a competency-based approach to determining the inservice needs for local school personnel and suggests the following procedures:

1. Teachers should make the final decisions on needed competencies to perform effectively in a school district. However, teachers should have opportunities to consider the theoretical aspects of teaching, including research findings prior to making decisions about needed competencies.
2. A continuum of proficiency for each competency should be developed in order to allow for continuous teacher growth. The indicators of proficiency on this continuum should be negotiated by the assessor and the teacher (pp. 122-123).

Rosenshine (1974) suggests that another problem relative to competency-based teacher education is one of integrating research findings into some meaningful context for teacher educators. One of the problems encountered in approaching the problem is the nature of available research. Most of the studies find that different training approaches used neither increase nor decrease the frequency or quality of the desired teaching behavior. The outcome of all this is additional training materials and programs which focus on generating the desired teaching behavior effectively and efficiently without first determining whether the desired behavior does indeed facilitate student achievement. Correlational studies abound in areas such as the training of teachers in the use of higher-order cognitive questions. Rosenshine goes on to suggest that part of the problem is due to preponderance of correlational studies which are incapable of demonstrating specific cause and effect relationships. After a detailed analysis of correlational and experimental studies on teacher questioning strategies, Rosenshine found that, especially in the experimental studies, there is no empirical evidence to support the commonly held notion that the use of higher-order questions contributes to gains in student achievement.

Rosenshine and Furst (1971), Rosenshine (1974), and Heath and Neilson (1974) all suggest the need for using stronger research designs in validating teaching competencies which are effective and important. While the emphasis is on using experimental, as opposed to correlational designs, it must be realized that certain conditions must be met before experimental research can be initiated. "The first step is to determine whether teachers trained for specific performance criteria behave differently in their classrooms from similar teachers who do not receive the training" (Rosenshine and Furst, 1971, p. 65). As suggested by the introductory chapter, one of the basic problems is the lack of emphasis in preservice and inservice teacher training programs on developing competencies in vocational and special educators to facilitate the career and vocational development of special needs learners. Clark and Oliverson (1973) report that programs to train secondary level special education teachers are almost nonexistant. Numerous reports were cited earlier describing the lack of emphasis given to special needs in vocational teacher education programs.

There is also a lack of research on definable and effective training techniques which would point out competencies needed by habilitation personnel. Throughout the literature, training, almost without exception, refers to exposure instead of systematic, controlled manipulations of the environment which are administered so that their educational effects can be measured and recorded (Gold, 1972). Oaklief (1971) notes that a similar condition exists in vocational education programs designed to serve a specific group of students. "Research and evaluation on the success and accomplishment of vocational-technical education programs on the rurally disadvantaged is noticeably lacking" (p. v).

Without the existance of a substantial number of training programs and basic research to suggest promising competencies in the area of facilitating the occupational development of special needs students, it is unlikely that experimental validation studies can be readily initiated at this time.

A number of descriptive studies have been conducted to suggest competencies which are critical for vocational educators, special educators, or personnel from both fields. The following paragraphs describe some of the more pertinent studies.

Cotrell, et al. (1970) developed a list of 390 competencies for vocational-technical education teachers and coordinators using introspection and interview techniques in an occupational analysis, using a representative national sample of 750 vocational teachers. This analysis of vocational-technical teaching yielded competencies in ten major categories: (1) program planning, development, and evaluation; (2) planning of instruction; (3) execution of instruction; (4) evaluation of instruction; (5) management; (6) guidance; (7) school-community relations; (8) vocational student organizations; (9) professional role and development; and (10) coordination. This basic framework has also been adopted by at least one state-level project to identify and specify competencies appropriate to vocational teacher education within the state of Illinois (Hackett, 1974).

Cook, et al. (1972) have developed a list of 75 competencies for a preservice vocational teacher education program. Originally identified by university faculty members and validated by local school personnel, school board members, business and industry representatives, high school and community college students, and graduates of vocational programs, the competencies were classified into seven major categories: (1) plan; (2) instruct; (3) evaluate; (4) guide; (5) manage; (6) public and human relations; and (7) professional role.

Hewitt (1966) identified a number of competencies for teachers of emotionally handicapped children. The broadly stated competencies were identified under seven main headings: objectivity, flexibility, structure, resourcefulness, social reinforcement, curriculum expertise, and intellectual model.

Dinger (1971) identified competencies for teachers of secondary level educable mentally retarded students. The 41 competencies listed are more specific than those suggested by Hewitt, and suggest that teachers should have a background in teaching prevocational skills.

Scott (1967) suggested five broadly stated competencies for teachers who work with culturally disadvantaged students: (1) proficiency in dealing with rapidly changing situations that arise in the classroom; (2) perceptiveness and capability in meeting psychological needs of students; (3) skill in modifying learning experiences in the content areas; (4) responsiveness to situations that arise in the classroom to help pupils acquire and practice social skills; and (5) flexibility in decision making.

Brolin (1973) reported a survey study, the purpose of which was to identify the needs of secondary educable mentally retarded students and the competencies teachers need to have to meet these needs. A total of 31 teacher competencies in four curriculum areas were rated as highly important by 205 secondary special education teachers and administrators: occupational, activities of daily living, psychosocial, and academic. A chi square analysis showed that significantly ($p<.05$) more occupational competencies were rated as most important than the other three types of competencies. The respondents were also asked to match the competencies to personnel who should ideally perform them. Significantly greater ($p<.05$) responsibility was endorsed for a prevocational coordinator for the occupational area competencies.

Melby and Regal (1972) compiled and evaluated a list of 67 competencies in five general areas for special education personnel. The general competency areas included: (1) teacher affect; (2) teacher effect; (3) teacher characteristics; (4) teacher interaction with other school personnel; and (5) teacher relationship with parents and community.

Ferns (1971) identified nine training needs of special needs workers in vocational education programs. His statewide interview survey of local administrators, consultants, and teacher educators in Michigan identified the following training needs:

1. Developing awareness of the specific needs of the handicapped and disadvantaged.
2. Knowing who the handicapped and disadvantaged are, how to plan programs for them, and how to accomodate them in regular programs.
3. Compassion for and understnading of individuals.
4. Knowing differences in teaching methods and materials for special needs students as compared to normal students.
5. Evaluating programs.

6. Adapting curricula to the open entry-open exit concept and the immediate feedback or reward concept.
7. Developing skills in human relations.
8. Handling potentially explosive urban situations.
9. Understanding of the drug problem, student dissent, and racial issues (pp. 193-194).

Kemp (1966) also identified from program experience, ten competencies which are critical for vocational teachers in successfully teaching special needs students. The suggested competencies include: (1) subject matter competence; (2) interest in working with special needs students; (3) the ability to reinforce slow learners and respond to all students; (4) the ability to seek out new techniques for communicating with the students; (5) skill in presenting goals to students and aiding them to meet challenges; (6) the ability to measure students by individual achievements; (7) specialized training to work with the disadvantaged learner; (8) the ability to work with other school personnel; (9) the ability to gear instructional materials to the understanding of the students; and (10) skill in helping students build improved self-concepts.

Kruppa, et al. (1973) synthesized a list of 330 competencies from three other national competency studies. A jury of experts consisting of university faculty members from the departments of industrial and special education at Trenton State College evaluated and classified the competencies in eight categories: (1) program development; (2) instruction; (3) knowledge of the learner; (4) community resources; (5) professional role and development; (6) management; (7) personality development; and (8) guidance.

Albright, Nichols, and Pinchak (1975) identified 112 professional competencies necessary for occupational education teachers of disadvantaged and handicapped youth in six catetories: program management (30 competencies), curriculum (19 competencies), classroom management (22 competencies), coordination (16 competencies), remediation (14 competencies), and counseling (11 competencies). A total of 718 teachers and coordinators returned questionnaires on which they rated the frequency of performance and importance of the listed competencies. A chi square analysis was used to determine whether selected competencies were more important to the responding personnel working in three state funded vocational programs for handicapped and disadvantaged youth. It was suggested that separate preservice or inservice training programs for these personnel would be a duplication of effort since it appeared their roles were highly similar.

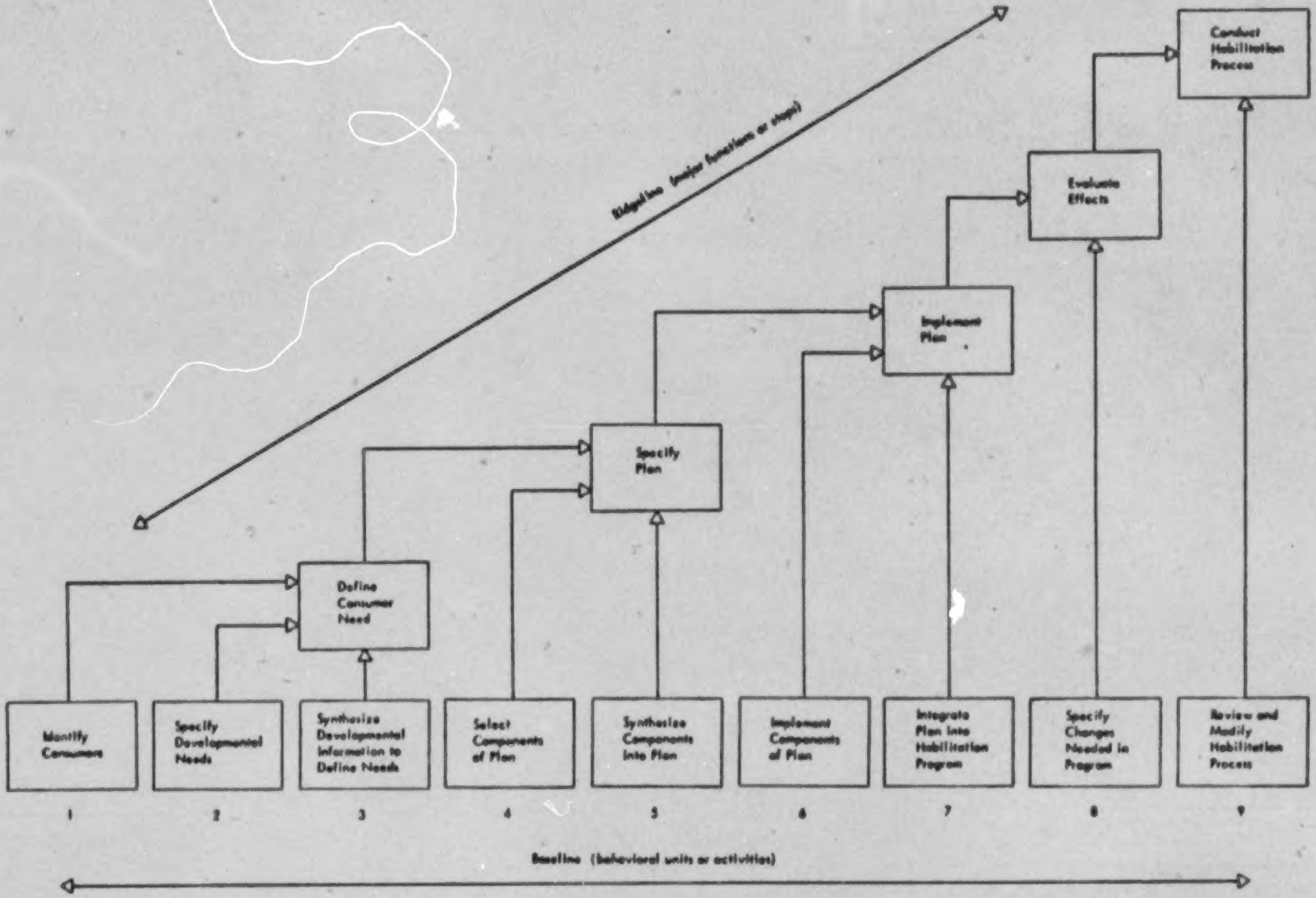
Schoonmaker and Girard (1975) have taken another approach in identifying competencies for habilitation personnel. Under the direction of Clark, they have developed a procedure for systematically analyzing the performance elements in a habilitation services delivery model. A two-way lattice analysis was used by Schoonmaker and Girard to specify needed instructional modules. Five major functions and nine baseline behavioral units or activities were identified. The basic lattice structure, which was further analyzed to identify personnel training modules, is presented in Figure 1 on the following page. Specific competency areas and competencies were identified when the instructional modules were further broken down. This approach appears to limit the possibility of overlooking competencies required in the systematic delivery of professional services or instruction. However, Travers (1975) has criticized such research-free systems analysis approaches as clearly not attempting to build upon what is known about the problem.

Review of Research on Competency Identification and Validation

It appears that at least three schools of thought currently exist on the process for identification and validation of competencies. One group, for which

Figure 1

Lattice Analysis for Identification
of Habilitation Personnel Training Competencies


Conduct Habilitation Process
Ridgeline (major functions or steps)
Evaluate Effects
Implement Plan
Specify Plan
Define Consumer Need
Identify Consumers
Specify Developmental Needs
Synthesize Developmental Information to Define Needs
Select Components of Plan
Synthesize Components Into Plan
Implement Components of Plan
Integrate Plan Into Habilitation Program
Specify Changes Needed in Program
Review and Modify Habilitation Process
1
2
3
4
5
6
7
8
9
Baseline (behavioral units or activities)

Rosenshine, Heath, Neilson, and Furst appear to be the strongest proponents, contends that validation of competencies should be based ultimately on student achievement. That is, the primary considerations in designing a teacher education program should be based on empirical data which verify that the proposed competencies result in achievement by students in the classroom.

A rather large group of competency identification studies using descriptive techniques has emerged. The descriptive techniques used have included questionnaires and other types of surveys to determine the frequency of performance and perceived importance of specific tasks in the teaching process. The principal respondent groups, ranging in size from 50 to 2000, have been teachers and administrators.

A third approach to competency identification has involved analysis of theoretical models for the professional role(s) being examined. Schoonmaker and Girard's work was the only process of this type included in this review, but the major curriculum projects of the 1950's and early 1960's present similar frameworks that were used for teacher competency identification. The process begins with the development of a theoretically and conceptually sound representation of the subject matter area or teaching model. Sections and subsections of the model are then carefully analyzed to identify the implicit and explicit teacher competencies required to implement the model in an educational setting.

Inservice Delivery Models

The plight of inservice teacher education has been vividly characterized by Goodlad (1969):

> Public schooling probably is the only large-scale enterprise in this country that does not provide for systematic updating of the skills and abilities of its employees and for payment of the costs involved. Teachers, we presume, can acquire markedly different ones through some process of osmosis (p. 59).

Inservice education, like society and other facets of teacher education, can, and indeed must change. Ralph Tyler (1971) suggests that inservice training in the future will not be limited to campuses or school buildings, but will be conducted in diverse settings close to the problems and resources upon which the training is focused. Inservice programs of the future will no longer be designed to "shape" teachers, but rather will assist, support, and encourage them in their efforts to improve themselves and their profession.

Gorman and Hamilton (1975) provide a rationale for inservice delivery systems which are focused on the development and enhancement of teaching roles.

> Many teacher educators desire to provide more closely articulated programs with increased attention to development of teaching competencies and increased opportunities to apply learning in the teaching role. These teacher educators find their efforts hampered, however, by the constraints of university course structure, credit, grading, and evaluation requirements as well as by existing certification requirements (p. 21).

Numerous, diverse inservice delivery models can be found in the literature. These models include plans for individual, as well as small and large group inservice development activities. Inservice models have been developed and implemented by local, state, and federal agencies, as well as colleges and universities, and have ranged in design and structure from content-specified courses to on-the-job internships.

Applegate (1974), in a state-wide survey of 110 Illinois occupational teachers and administrators, found that the most typical inservice activity was the on-campus graduate course at a teacher training institution. Yet, in indicating their preference for various types of inservice activities, the respondents ranked on-campus courses eighth among nine alternative inserivce delivery models. The rank preferences from the survey are as follows:

1. Off-campus course offerings by teacher education institutions.

2. Short duration (2-4 days) workshops conducted during the summer.

3. Short duration (1-3 days) workshops conducted during the school year.

4. Local inservice activities designed and planned by local staff and administration.

5. Field service programs and activities provided by teacher education institutions and state education agency staff members.

6. Summer internships in business, industry, or public agencies.

7. Weekend workshops (Friday and Saturday) throughout the year.

8. On-campus course offerings at teacher education institutions.

9. Individualized programmed instruction or correspondence courses (p. 18).

Based on experiences in designing and implementing an inservice training model to support the field test validation of the national Comprehensive Career Education Model, Norton (1972) identified several key elements in the design of an inservice program. He noted that inservice programs for career education must reflect: (1) identified staff needs and involve the participants in goal setting; (2) utilization of human resources to the fullest extent; (3) planned activities in which the staff can be involved; (4) new experiences, built on previously introduced experiences; (5) periodic evaluations and needs assessments; and (6) time for programs and activities which are consistent with an overall program development purpose.

Gorman and Hamilton (1975) suggest some additional desirable characteristics for performance-based inservice teacher education programs. Here again, the reported findings are based on observation and experience, and are not substantiated by quantitative data. Their list of desirable characteristics was generated from the pilot testing of a series of 118 performance-based vocational teacher education modules at Oregon State University, the University of Missouri, and Temple University. The reported desirable characteristics for inservice programs include: (1) instruction which is individualized and personalized; (2) feedback to guide the individual's learning experience; (3) a systematic approach to the program; (4) emphasis on exit, not entry requirements; (5) modularized instruction; and (6) student is held accountable for performance. The authors suggest that these characteristics are not new findings, but have been associated with sound educational practice for some time.

Use of a differentiated staffing pattern for delivering inservice vocational teacher education has been reported by Hamilton (1974). A differentiated staffing pattern was employed at Temple University in an internship-based inservice program designed specifically to enable teachers entering teaching from industry to develop the competencies needed to teach vocational students. The staffing pattern included five levels of staffing which were identified as: interns (student teachers), resident resource persons (master teachers in the schools), field resource persons (university personnel conducting liaison activities with the schools), senior teacher educator (supervisor of field resource personnel), and council of educators (representatives of administration, teacher education, and competent teachers who evaluate intern attainment of competencies).

Huffman and Welter (1972) have stressed the importance of using clinical experiences in the preparation of vocational and technical teachers of socioeconomically disadvantaged youth. Huffman and Welter (1972) cite a study conducted by Bowman (1968) of attitude change of teachers who had special training to teach the handicapped:

> The regular contact during each semester with culturally disadvantaged children in both in- and out-of-school settings plus intensive programs of observations and participation in depressed areas are crucial to successful student teaching and subsequent teaching in schools for the culturally disadvantaged . . . (p. 7)

A feasibility study focused on employing the clinical experience concept in student teaching was conducted with 22 vocational education student teachers at Colorado State University, Southern Illinois University and Temple University (Huffman and Welter, 1972). A clinical experience manual was used as a resource guide by the student teachers. The conclusions of the study suggest that:

1. Clinical experiences enhanced the success of participating prospective vocational teachers in their student teaching assignments.
2. Community agencies were receptive to the clinical experience program and provided opportunities for the prospective teachers to gain a variety of experiences.
3. Generally, school administrators were receptive to the clinical experience program, cooperated with the participating university, and expressed a desire to participate in the program the following year.
4. The prospective teachers reported that as a result of the clinical experiences their respect for disadvantaged youth increased significantly (pp. 51-52).

Two alternative methods of inservice oriented correspondence instruction in leadership development in vocational education were compared by Lockwood (1973). Practicing administrators, teachers, and counselors were enrolled in a pilot version of a correspondence course. Some of the participants completed the course by working in groups at selected field schools, while the remainder of the participants received the traditional, independent method of correspondence instruction. The achievement of individuals in either of the two instructional methods used did not differ significantly as measured by the final examination, or the course grade awarded, but the completion rate was markedly higher for the teachers who studied in groups.

Review of Research and Inservice Delivery Models

The foregoing is only a sampling of the findings that have emerged from efforts to provide continuing professional education for educators. It appears, however, that very little formal research has been conducted to control and examine pertinent variables in the inservice education process. Most of what we have learned has been gained through the evaluation of highly specific and frequently unique inservice programs.

Lawrence and his coworkers (1974) examined and compared the findings of 97 inservice programs in an attempt to identify patterns of effective inservice education. The programs examined included both college-based and school-based inservice programs for teachers. Several of the inservice studies analyzed included professional development programs for vocational and special educators. The major findings pertaining to this study are presented below, and offer a comprehensive review of research on inservice delivery systems.

> Inservice programs in schools and on college campuses are equally capable of affecting teacher behavior, but the school settings tend to be capable of influencing more complex behavior changes in teachers (p. 8).
>
> Teacher attitudes are more likely to be influenced in school-based than in college-based inservice programs (p. 9).
>
> School-based programs in which teachers participate as helpers to each other and planners of inservice activities tend to have greater success in accomplishing their objectives than do programs which are conducted by outside personnel without the assistance of teachers (p. 11).
>
> School-based inservice programs that emphasize self-instruction by teachers have a strong record of effectiveness (p. 12).

> The success rate of inservice education programs is substantially higher when change in teaching behavior is the criterion rather than when subsequent change in pupil behavior is the criterion (p. 13).
>
> Inservice education programs that have differentiated training experiences for different teachers (that is are "individualized") are more likely to accomplish their objectives than are programs that have common activities for all participants (p. 14).
>
> Inservice education programs in which teachers share and provide mutual assistance to each other are more likely to accomplish their objectives than are programs in which each teacher does separate work (p. 15).
>
> Teachers are more likely to benefit from inservice education activities that are linked to a general effort of a school than they are from "single shot" programs that are not part of a general staff development (p. 15)
>
> Teachers are more likely to benefit from inservice programs in which they can choose goals and activities for themselves, as contrasted with programs in which the goals and activities are preplanned (p. 15).
>
> Self-initiated and self-directed training activities are seldom used in inservice education programs, but this pattern is associated with successful accomplishment of program goals (p. 15).

Instructional Packages

Much of the literature on assessment of instructional packages focuses on the curriculum products of the large-scale curriculum projects initiated during the late 1950's and early 1960's. Curriculum packages such as the Biological Sciences Curriculum Study (BSCS) and the Industrial Arts Curriculum Project (IACP) offer more than the traditional textbook or curriculum guide. Rosenshine

(1974) finds three reasons for further study of these packages to determine empirical bases for teacher training.

> The curriculum materials packages offer at least three advantages: 1) the materials, instructional procedures, and sequencing were developed by a team of specialists in content and instruction, 2) the products have been revised and refined on the basis of internal evaluation and tryout feedback obtained from 20 to 200 classes, and 3) a good deal of summative data is being generated which will help in conducting research on the relative effectiveness of the curriculum programs for different educational outcomes (p. 149).

Rosenshine goes on to suggest that teacher training should involve prospective teachers in the review and analysis of different curriculum packages, and should provide them with the competencies needed to implement a package. However, there remains a major need for research in this area of curriculum to determine whether the teaching skills suggested or mandated in the packages are indeed related to student achievement.

Steele (1974) finds that "Mounting evidence from studies and reviews of the era of large-scale curriculum studies suggest that their impact on instructional practices has been less than revolutionary" (p. 50). Steele also supports Rosenshine's contention that teacher training is critical to future improvements in the educational programs. "It would seem that before further curriculum development efforts, an important avenue to improve the educative process lies in programs of teacher selection, training, and supervision" (p. 50).

While the major thrust of the BSCS project has not been the development of instructional packages for teacher training, the results of the project's formative evaluation carry significant implications for the development of educational curriculum and instructional products of all types. Six major sources of evaluation data were used by Steele (1974) in conducting a formative evaluation to guide the revision of a BSCS unit entitled Me and My Environment. The most useful data for revision came from teachers who were selected carefully for participation in the field test, and who also demonstrated an ability to provide objective, insightful, and creative revision suggestions. Detailed content reviews of the curriculum materials by specialists and staff were rated as the second most useful data source for revision. Direct observation of instruction by staff was considered to be the third most important source of revision data. Data on student abilities and performance was rated fourth among the useful sources of data. Observers other than full-time staff did not provide information which was consistently useful in revision. However, observer reports were helpful in verifying teacher feedback and in the occasional identification of instructional activities where a problem existed.

One of the critical considerations in any evaluation design is the tradeoffs which are inherent in the design. Steele (1974) also noted two specific "tradeoffs" that were made in conducting the formative evaluation of Me and My Environment. The first was an increased breadth of understanding that a closer study of the complexities of the classroom might have provided. The second was the exploration and understanding of specific learning problems that longitudinal studies of individual students would have provided. Several detailed portrayals of student-teacher-curriculum interaction were developed to offset the lack of longitudinal data.

The formative evaluation of Me and My Environment also reveals several key design factors. Steele (1974) notes the criticality of redundancy in the data collection scheme when the developers want to insure that the curriculum will function under a variety of conditions, and when evaluative judgments and interpretations have to be made at considerable distances from the field test site.

A multiplicity of elements and approaches can be found in the formative evaluation model used in the BSCS study. Included in the design were activities such as: content reviews by experts, a matrix analysis of curriculum emphases, informal as well as formal feedback from teachers, student progress and achievement data, portrayals of representative cases of student-teacher-curriculum transactions, face-to-face interviews with teachers and students, external, goal-free evalaution, and student records and materials.

A review and analysis of several recently developed inservice teacher training packages in vocational and special education reveals several common characteristics. A review of organizational, utilization, format and content characteristics of the following inservice packages was conducted:

Inservice Package	Developer/Agency
Illinois Occupational Curriculum Project	Borgen and Davis/ Illinois Office of Education
Administrator Leadership Development Program	Ramp and Parker/ Southern Illinois University
Competency-Based Education	Johnson/ Wayne State University
Inservice for Advisory Committees	Cochran/ Central Michigan University
Locally-Directed Evaluation	Wentling/ University of Illinois
Remediation of Learning Disabilities	Valett/ Fearon Publishers
Handbook in Diagnostic Teaching	Mann and Suiter/ Allyn and Bacon, Inc.
Habilitation Personnel Training Project	Clark/ University of Kansas

The selection of these inservice projects and products was based upon the developer's indication that they were designed for inservice use, or could be adapted easily to inservice teacher education.

These packages appear to be of two basic types: (1) objective-based, programmed materials and (2) resource materials. Those materials or packages which include specification and pre-instructional assessment of competencies or objectives appear to be similar in content, format, and organization to traditional programmed instructional materials. Two of the eight packages were of this type (Competency-Based Education, and Habilitation Personnel Training Project). They incorporated specific user performance objectives and schemes for providing evaluative feedback regarding competency attainment.

The remaining six packages were considered resource-based materials, designed to be used in different settings to meet different or unique personnel development needs. Ramp and Parker (1974) describe these materials as sourcebooks or guidebooks which the user can employ as a resource from which to ". . . pick, choose, combine, and structure learning experiences as he/she sees fit" (p. 3). Inservice resource materials are usually in a format that permits any section, sub-part, or combination of parts and sections to be used in the inservice experience(s).

Lawrence, et al. (1974) examined 97 different inservice teacher education programs and found that less than 7% used modules or other self-instructional packets. Over half of the programs studied were classified as multi-media (using a combination of several media). The primary media used appeared to be lecture-discussion, video and/or audio tapes, and books. However, books played a very subordinate role and were mentioned in only 12% of the inservice programs studied.

The principle conclusion drawn by Lawrence and his coworkers was that: "No medium of instruction is broadly inappropriate or distinctly inferior in the accomplishment of the objectives of inservice education" (p. 10). A more specific finding reported in the Lawrence study noted that, video and audio taping are effective means for influencing teacher behavior in classroom management skills, and were used frequently in programs focusing on objectives directly related to teaching skills.

Review of Research on Inservice Instructional Packages

There is a significant lack of research which demonstrates that certain content, organizational, or format considerations are more effective or appropriate than others in designing inservice instructional packages for different educational personnel. While summative data on student performance are available from the large-scale curriculum projects of the early 1960's, similar data are not yet available on the currently popular teacher training packages. As such data become available through formative evaluation and research, they could be used to determine specific content, format, and organizational factors in instructional packages that are conducive to achievement of inservice competencies.

Formative Evaluation

Evaluation must be an integral component of any instructional development process (Diamond, et al., 1975). A number of principles have been cited by the developers and evaluators of instructional products to guide the development, field testing, and revision of materials. Although the vast majority of these principles pertain to the development of materials by teachers for use in public school classrooms, many of them also can be applied to the formative evaluation of inservice teacher education materials.

Popham and Baker (1971) have cited a number of pertinent principles for guiding the processes of product development, tryout, and revision:

Product Development

1. Supply the learner with appropriate practice during an instructional sequence.
2. Provide the learner with the opportunity to obtain knowledge of results.
3. Insure that the instructional product contains provisions for promoting the learner's interest in the product.

4. Avoid the development of an inflexible strategy in approaching product development tasks.

5. If teachers are involved in the instructional process, make their participation as replicable as possible.

6. If the product is to be used in the classroom, develop it so that teacher attitudes toward the product will be positive.

7. Select an instructional medium in light of the desired instructional objectives, intended target population, cost, and other relevant considerations.

Product Tryout

1. Avoid an extremely small or extremely large number of learners when field testing the product.

2. Verify that the procedures associated with the use of the product result in a replicable treatment.

3. Summarize data from field trials for use by those who will revise the product.

4. Use those involved in field testing the product to collect data; they should not, themselves, engage in drawing inferences from the data.

Product Revision

1. Base product revisions on legitimate inferences from the field test data.

2. Make primary inferences regarding product revision from criterion data.

3. Consider learner response data during the program as a valuable source of cues for product development.

4. Do not allow loss of face for the initial developer to be associated with revisions of an instructional product.

5. Perform operations analysis (an evaluation of the development and evaluation process used) at the conclusion of all systematic development of instructional products (pp. 167-168).

Thiagarajan, Semmel, and Semmel (1974) discuss three stages of developmental testing that are appropriate for all instructional products: initial testing, quantitative testing, and total package testing. During the initial testing, individuals or small groups of users discuss the materials in a face-to-face situation. Several sessions are held with different users until consistent results are obtained. Developmental testing of the product occurs in an instructional situation with the developer acting as instructor. The final stage, total package testing, occurs in an actual training situation without the direction of the developer. Revisions are made following each stage.

Several possible sources of formative evaluation data have been mentioned already, but there are others. Diamond and his colleagues (1975) suggest four major sources: student observations, teacher observations, observations by friends, parents, and individuals from the general community, and student performance on tests. The developers of the Biological Sciences Curriculum Study (1972) note several formative evaluation information sources they used in the development of classroom materials. The data sources included: student tests, observer reports, interviewer reports, teacher reports, records of performance, and situational descriptions.

Hillelsohn (1974) strongly recommends the use of student reported information as a formative evaluation data source. When the formative evaluation of computer assisted instructional programs was undertaken, student-perceived problems, as reflected by student initiated reports, were found to be a valuable data source. The self reporting techniques revealed individual differences in the student/learning environment interactions that were difficult to obtain (or unobtainable) by other means.

Appraisal by experts is a formative evaluation process recommended by Thiagarajan (1974). Expert appraisals may be conducted from either a technical or an instructional point of view. The technical review, conducted by instructional development specialists and editors, encompasses evaluation of the product in terms of media, format, and language. The instructional review, conducted by subject matter specialists, focuses on appropriateness, effectiveness, and feasibility of the instructional product. Thiagarajan suggests that: a wide variety of specialists from scholarly and technical areas be used, each expert be restricted to his own field, only relevant parts of the material be presented for evaluation by each expert, and the purpose and context of the review be carefully explained to the expert.

Baker and Alkin (1973) suggest that one of the critical factors in judging the instructional effectiveness of a product is the extent to which learners master the objectives. Baker and Alkin go on to suggest the use of an 80/80 criterion in making decisions relative to the modification of instructional products or materials. An 80/80 criterion implies that if at least 80% of the students who begin the instruction complete at least 80% of the objectives on the first attempt, the instruction is considered effective. However, Epstein (1975) argues that the general use of the 80/80 rule is inappropriate, and suggests the use of sequential plans as a basis for developing decision rules. The sequential plan system examines individual objectives within the material, and does not permit the collapsing of data across all objectives. Epstein contends that the general use of the 80/80 criterion can cause the evaluator to overlook major revisions needed in individual objectives. Epstein reported that the sequential plan system required fewer studrets and provided a much clearer framework for making decisions.

Spooner-Smith and her colleagues (1975) offer some observations on decisions based on formative evaluation information. The developers of a formative program evaluation kit for elementary school principals saw their mission as extending beyond simply determining whether or not the product met predetermined specifications. The authors argue that it is the developer's responsibility to ensure that a product is readily adaptable by the user to the "noisy" conditions under which it will be ultimately used. Users are likely to accept a product only if it is consistent with their professional norms, level of expertise, and day-to-day responsibility. The authors suggest that although a product may solve an educational problem, the target users will be reluctant to use the product if they are dissatisfied with the means by which the problem is solved.

Review of Research on Formative Evaluation

Most of the literature on formative evaluation has been generated by the conduct of formative evaluation studies. Sanders and Cunningham (1972) have synthesized the generally known information regarding information sources, techniques, and procedures in "A Sturcture for Formative Evaluation in Product Development." The basic principles and suggestions cited in this brief review of the literature on formative evaluation are accurately and consistently reflected in the structure developed by Sanders and Cunningham.

An area in which research appears to be inadequate is the decision making process relative to formative evaluation. Only two studies were found which discussed guidelines, criteria, or considerations pertaining to decision making. In the six formative evaluation reports reviewed, most developers and formative evaluators appeared to make decisions based on inituitive feelings or criteria that were not conveyed fully to the reader of the report. It was noted that the decision making aspect of formative product development was omitted also from the Sanders and Cunningham structure.

Another observation made in reviewing six formative product evaluations was the neglect of meta evaluation discussions. Product developers and formative evaluators appear hesitant to discuss or present findings describing the utility or effectiveness of the processes, techniques, or sources used in their formative evaluation designs. Although Churchman (1975) and Popham and Baker (1971) have emphasized the importance of reporting concerns relative to the process of formative product development, such concerns appear to be reported only infrequently.

III. METHODS AND PROCEDURES

Evaluation Design

A formative product evaluation design similar to the one proposed by Sanders and Cunningham (1972) was utilized in this study. The Sanders and Cunningham model suggests four distinctive formative evaluation activities as being appropriate in the development of educational products: pre-developmental evaluation, evaluation of objectives, interim or developmental evaluation, and product evaluation. They cite three sources of evaluative information as being particularly useful in each of the four formative evaluation activities: (1) internal information which can be generated by inspecting the product itself; (2) external information which concerns the effects the product or its components have on behaviors or attitudes of learners and relevant others; and (3) contextual information which describes the conditions under which the product is expected to function (Lawson, 1974). Figure 2 on the following page presents the evaluative information structure proposed by Sanders and Cunningham.

The last three formative evaluation activities suggested by Sanders and Cunningham were used in this study. The initial, pre-developmental evaluation activity was completed during the preparation of the proposal for funding of this study. At that time, an extensive review of the professional literature, current research priorities, and recently completed research reports revealed a substantial need for inservice programs and materials directed at serving personnel working in vocational education programs serving special needs students.

The major evaluative questions for each of the other three formative evaluation activities were presented in the introductory section of this thesis. The first activity focused on ascertaining information about the worth or value of the preliminarily-selected competencies, which represented the

Figure 2

A Structure for Formative Evaluation in Product Development *

FORMATIVE EVALUATION ACTIVITY

SOURCE OF INFORMATION	Pre-Developmental	Evaluation of Objectives	Interim	Product
Contextual	• Needs assessment • Occupational analysis	• Context assessment (if no needs assessment results available)	• Literature reviews • Informal observation	• Observation technique • ATI procedures • Context assessment • Group data perceived • Unobtrusive measures
Internal	• Logical analyses of needs—cogency, consequences • Empirical analyses of needs—group data, observation, expert opinion • Analysis of documents	• Logical analyses—cogency, consequences, values • Empirical analyses—group data, observation, expert opinion • Analysis of documents • Unobtrusive measures	• Material analysis guidelines • Content analysis • Analysis of learning structures • Expert opinion (including author) • Systems analysis	• Cost analyses • Material analysis guidelines • Content analysis • Group data (critical appraisal) • Expert opinion
External	• Critical incidents • Criterion performance of behavior	• Specification of objectives • Issues about objectives (diversity, specificity, etc.) • Operationalization of objectives	• Experimental and quasi-experimental design • Unobtrusive measures • Naturalistic observation	• Cost analyses • Experimental and quasi-experimental design • Correlational analyses • Quantitative naturalistic observation techniques

*Reproduced from: J.R. Sanders and D.J. Cunningham, 1972.

basic instructional objectives for the modules. The second activity, interim formative evaluation, focused specifically on needed changes in format and content of the initial versions of the modules. The final activity, product evaluation, assessed several questions concerning demonstrated and potential uses of the modules as inservice instructional products.

Information Sources

Six separate information sources were utilized in the study for the purpose of collecting relevant data addressing the key evaluation questions. This section describes each of the sources used for selection. The following section will describe the specific instrumentation that was developed and used in obtaining information from each of the sources.

Expert Review Team. A panel of experts from the fields of vocational education, special education, and instructional development was used to validate the competencies and review selected field test versions of each of the modules. The composition of this panel, referred to hereafter as the Expert Review Team (ERT), is shown in Table 1 on the following page.

Thiagarajan, Semmel, and Semmel (1974) note the importance of incorporating expert opinion in formative product development along with student data:

> . . . while performance data from student tryouts are the most valuable feedback for the improvement of materials, knowledgeable experts can provide feedback on theoretical soundness and technical quality which are beyond the students' realm of expertise. Furthermore, from a dissemination point of view, expert opinion is most important since, for better or worse, the decision to adopt the material is frequently based upon it (p. 127).

Members of the ERT were selected by the director of the evaluation in consultation with the director of the project. Team members were selected from a national pool of individuals who were known to have had considerable experience in designing and implementing local school programs, teacher education programs, or research and development projects focusing on vocational education for special needs students. In addition, equal involvement from the fields of vocational and special education was generated. A directory of ERT members is presented in Appendix B.

Table 1

Expert Review Team Composition

Team Member Classification	Vocational Education	Special Education	Total
Teacher educators	3	3	6
Secondary school personnel (teachers, coordinators, counselors and consultants)	6	6	12
Local program directors	3	3	6
State department of education personnel	3	3	6
Instructional development specialists			2
			32

Field Test Participants. Another information source used in the study was the inservice field test participants. Twenty-nine teachers and teacher/coordinators from two secondary programs participated in the field testing. The participants ranged in age from 23 to 54, and had accumulated 1/2 to 23 years of teaching experience. Nineteen had completed their masters degree prior to the field testing. The remaining ten had completed baccalaureate degrees.

Twenty of the 29 participants were employed at Site A which was the independent selection site. Seven of the 29 participants were teaching in junior high or middle schools; 17 in comprehensive high schools; and five in an area vocational center located at Site A. The majority of participants held teaching or teacher/coordination responsibilities in vocational education programs.

Fifteen were vocational teachers and eight were vocational teacher/coordinators. Of the six participants employed as special education staff, four were teachers and two were teacher/coordinators. Table 2 on the following page summarizes the descriptive data on the field test participants.

Local Program Administrators. Administrators at each field test site who did not participate in the inservice field test activity were interviewed prior to initiation of the field testing. Directors and assistant directors of the vocational and special education programs in both school districts provided the contextual information necessary to coordinate the inservice field testing activity with local district policy and procedures relative to vocational education programs for special needs students. These individuals were also utilized as members of the ERT. This arrangement provided another communication vehicle that was helpful in collecting contextual information.

Relevant Documents. Prior to and during the field testing, a number of documents were reviewed to obtain contextual information. An informal inspection analysis of the state mandated One- and Five-Year Plans for Occupational Education, documents describing special education programs and services, and referral, diagnosis, and intervention procedures was completed. Several related documents and curriculum materials developed and used by the field test participants were also reviewed.

Participant-Observers. Acting in the role of a participant-observer, three graduate students from the Department of Vocational and Technical Education, University of Illinois, served as an evaluative information source during and following the field testing. One trained participant-observer attended each of the inservice field test sessions at both sites.

Inservice Products. The products developed by the participants as a result of completing the module inservice experiences represented another formative

Table 2

Field Test Participants

Participant Descriptors	(N=20) Site A	(N=9) Site B	Total
Classroom Teachers			
Vocational Education	12	3	15
Special Education	1	3	4
Teacher/Coordinators			
Vocational Education	6	2	8
Special Education	1	1	2
Instructional Level			
Junior High/Middle School	3	4	7
Comprehensive High School	12	5	17
Area Vocational Center	5	0	5
Degree Held			
Masters	12	7	19
Bachelors	8	2	10

evaluation source. The guidelines and procedures in each of the 15 inservice experiences presented in the seven modules were designed to produce some type of written product which would be useful to the participant in planning, implementing, or evaluating specific instructional units or broad instructional programs for special needs students. The products ranged from agenda for advisory committee meetings to specific lesson plans or modules of instruction to follow-up study questionnaires. A review of the products developed by the participants was an extremely useful source of information for determining modifications needed in the modules.

Instrumentation

A series of instruments and forms was used to collect narrative comments and numerical data from the aforementioned information sources. The interrelationships between the specific data items on these instruments and the key evaluation questions were quite complex because the director attempted to cross-validate information relative to specific questions by using all relevant information sources.

Competency Questionnaires. Two questionnaires were used by the ERT in reviewing and validating initially-identified instructional development competencies. Appendices C through G present the instruments and cover letters used in this modified Delphi procedure. The central question addressed in both questionnaires was: "To what extent is successful performance of each or all of the 32 preliminary competencies critical to providing effective instruction and supportive services?" On both questionnaires the ERT was asked to respond to its criticality for four separate groups who were considered to constitute the inservice target audience: vocational teachers, special education teachers and/or consultants, counselors, and cooperative or work study coordinators. Competency Questionnaire II (Appendix G) focused on the same key question for each competency and each professional role. However, Questionnaire II provided the ERT member with the computed mean importance/criticality rating for each competency from Questionnaire I. Before mailing to the ERT, Questionnaire II forms were coded individually, indicating the ERT members' responses on Questionnaire I. Responses 1.50 points above and below the mean generally fell in the upper and lower quartiles in the distribution of scores on individual items. In instances where the ERT member's rating on an individual competency differed from the computed mean criticality rating from Questionnaire I by more than 1.50, the individual was asked to reassess his initial response. For those items marked with a red star (*), the ERT member was asked either to adjust his/her response closer to the mean, or to provide a brief statement indicating "why" the item/competency received its original rating or a more divergent rating.

The data obtained from the Competency Questionnaires are presented and discussed in Chapter IV in the competency validation section of each of the module micro-analyses. The composite list of competencies is also discussed in the evaluative outcome analysis section of Chapter IV.

Module Feedback Instrument. The Module Feedback Instrument presented in Appendix H was the principal instrument used in evaluating each of the modules. The field test participants utilized this instrument immediately upon completion of a module to provide evaluative feedback on specific sections of the modules, as well as general reactions to the content and format of the total module. A slightly modified version of the instrument was also used by the ERT members when they reviewed selected modules.

Module Utilization Checklist. This instrument, shown in Appendix I, was used by the ERT in supplementing their evaluations of selected modules using the Module Feedback Instrument. The information provided on this form focused on the ERT member's feeling regarding different inservice uses of the module, as well as the target audiences deemed to be most appropriate for the specific module.

Product Assessment Checklist. As noted earlier, each of the Inservice Experiences in the modules was designed to generate a written product. The products produced ranged from inventories of community resources to completed modules of instruction for a specific student. A product assessment checklist (presented in Appendix J) was developed by the director. It contains specific criteria against which each of the completed products was evaluated. The evaluative criteria developed for this checklist were also incorporated in the self-evaluation section of each module. In this way, when the participants self-evaluated their completed products prior to submitting them, they were provided feedback as to how accurately their product corresponded with the guidelines, procedures and basic suggestions presented in the module. Separate self-check evaluation sheets were provided for each of the 15 inservice experiences. The participants were not required to complete or submit the self-check evaluations, but approximately 25% did.

A copy of the Product Assessment Checklist containing the criteria for evaluation of all 15 inservice experiences was kept in a folder for each participant. As participants submitted their products to the director, they were evaluated using the Product Assessment Checklist. Each week during the field testing, the products along with a copy of the director's evaluation were returned to the participant.

Upon completion of the field testing, the Product Assessment Checklists were useful in examining participants' misinterpretations of guidelines and procedures in developing their products. The sophistication and comprehensiveness of the completed products, as reflected by the Product Assessment Checklist results, also gave the director insight regarding the participants' view of the utility of specific products.

Needs Assessment Instrument. To aid in planning the field testing of the modules, it was important to determine to what extent the participants already used or perceived a need to use the instructional development strategies contained in the modules. At the orientation meeting at both sites, the participants were asked to complete a Needs Assessment Instrument (presented in Appendix K). This instrument, which was also administered at the conclusion of the field testing, asked the respondent to review a list of 33 instructional practices or strategies and respond to two key questions. These practices or strategies were identical to the competencies evaluated by the ERT earlier on the Competency Questionnaires and represented the instructional objectives of the modules. For each instructional practice or strategy, the participant was asked: (1) What is the relative time you spend using this practice or strategy with special needs learners? and (2) Do you wish to know more about this practice or strategy?

As part of the contextual assessment, a modified form of this instrument (see Appendix L) was also given to each of the four local vocational and special education directors at the field test sites for the identical set of instructional practices and strategies. Each administrator was asked to complete one instrument for his middle school/junior high school personnel and a separate instrument for his high school staff. For each instructional practice or strategy, the administrator was asked: (1) To what extent do most of the classroom personnel on your staff at this level use this practice/strategy in working with special needs learners? and (2) To what extent should the classroom personnel on your staff at this level use this practice/strategy in working with special needs learners? This same instrument was used with work-study and cooperative education personnel.

Administrator Interview Guide. Prior to the field testing, each of the four local administrators of the vocational and special education programs was interviewed by the director. The purpose of the interview was to collect contextually-pertinent information that would facilitate the planning of the field testing activities at each site. The two separate forms of the Interview Schedule used are presented in Appendices M and N. The same basic questions were asked on both forms, the difference in forms being changes in the wording and context of questions to make them appropriate for vocational education administrators (Form 1) and special education administrators (Form 2). The interview guides were used to collect information from the administrators relative to district procedures for: (1) identifying special needs learners; (2) assessing learner needs; (3) developing instructional objectives; (4) using advisory committees; (5) using and purchasing special instructional materials; (6) fostering cooperation among vocational and special education personnel; (7) hiring special staff; and (8) placing and following up special needs learners.

Participant Logs. The field test participants at both sites were required to submit every three weeks a log describing their activities and experiences with the modules. Appendix O presents a copy of the form which was given to the participants to use, along with "good" and "bad" (or useful and nonuseful) examples of completed log forms. At the orientation sessions, one half hour was devoted to discussion of the specific types of information to be reported in the logs. A total of 95 logs was submitted by the 29 participants during the 12 week field test period.

Participant-Observer Reports. A two-page participant-observer report (see Appendix P) was prepared by the participant-observer following each field test session at each site. Prior to the field testing, three graduate students were provided training by the director to establish procedures for participating, observing and reporting. A total of 16 field test sessions was held. The primary participant-observer, who was employed as a research assistant on the project, attended 13 sessions while the two other participant-observers attended the remaining sessions.

Illinois Course Evaluation Questionnaire. At the conclusion of the inservice field test, the participants were asked to complete the Illinois Course Evaluation Questionnaire (Appendix Q). Twenty-five of the 29 participants submitted completed questionnaires which contained items pertaining to the course content, methods used, and instructor.

Teacher Portrayals. Two months following the completion of the field testing, five teacher portrayals were developed by the primary participant-observer. The purpose of the portrayals was to describe how selected teachers viewed and used the modules sometime after the inservice experience. The primary participant-observer selected the teachers to be informally interviewed and the concerns to be addressed in the portrayals. Consultation and suggestions for selecting and interviewing the participants and developing the portrayals were provided by Dr. Robert Stake of the Center for Instructional Research and Curriculum Evaluation. Dr. Tim Wentling of the Evaluation Research Center, Department of Vocational and Technical Education, met with the participant-observer on several occasions to clarify and expand the initial drafts of the portrayals. The director was not involved in the selection or interviewing of the teachers. The portrayals are presented in Appendix R.

Pilot Testing

Extensive pilot testing of the initial drafts of Modules 1, 2, and 3 was conducted during the summer of 1975. These modules, which were the first to be developed, were given to 20 practicing vocational and special education teachers and teacher educators for review. Face-to-face interviews and an early version of the Module Feedback Instrument were used to collect suggestions for improvement of content and format. Modules 1, 2, and 3 were then revised and were considered ready for field testing.

The initial drafts of Modules 4 and 5 were completed the week before the field testing began. These modules incorporated the format suggestions from the earlier pilot test of Modules 1, 2, and 3 and reflected content based on the returns of Competency Questionnaire I. Six graduate students and faculty members in the departments of Vocational and Technical Education and Special Education reviewed Modules 4 and 5. The Module Feedback Instrument and personal interviews were again used to collect suggestions for revision that was necessary prior to field testing.

The initial drafts of Modules 6 and 7, which were completed during the sixth week of field testing, were not pilot tested prior to their use in the field test. A pilot test was not deemed necessary because of the extensive prior pilot and field testing of the basic module format, and because the final results of the competency validation survey were available to focus decisions relative to appropriate content for these modules.

Pilot testing of each of the instruments to be used by the ERT and the field test participants during the study was also completed.

Field Testing

The modules were field tested using two different inservice arrangements. Field test plan A was an independent, small group inservice activity. Over a period of 12 weeks, the participants spent eight weeks working in teams, developing and evaluating individual instructional plans for the special needs learners with whom they were working, and utilizing only selected modules.

Three orientation sessions were held initially to acquaint the entire group of participants with the content of the modules. Once the teams and special needs learners were identified, the participants selected and completed the modules they felt were appropriate to their instructional development needs. Additional details describing the field test design are provided in Appendix S.

Field test plan B was a 12 week, structured workshop in which all of the participants utilized all of the modules in their original sequence (1, 1A, 2, 3, 4, 5, and 6). During the workshop, both large and small group instruction were used with approximately 1/3 to 1/2 of the instructional time being devoted to small group instruction. In the small group instruction, teams of vocational and special education personnel planned and evaluated instructional plans for selected special needs learners with whom they were currently working.

Data Analysis

Descriptive statistics were employed in summarizing data from the Competency Questionnaires, Module Feedback Instruments, Module Utilization Checklists, and Needs Assessment Instruments. Frequency totals, means, and percentages were the primary statistics used. However, much of the pertinent information obtained from the different information sources in this evaluation was not numerical in nature, and thus difficult to analyze statistically.

Three distinct levels of analysis for this formative evaluation are presented and discussed further in Chapter IV. The first level of data analysis involved the completion of a micro-analysis of each of the seven modules. Suggested modifications for the revision of content of each module were generated from the micro-analyses. The second level analysis was a macro-analysis in which the findings from the seven micro-analyses were compared and contrasted. Specific suggestions for modification of the module format and other considerations pertaining to the series of modules were generated from the macro-analysis. An evaluative outcome analysis was used to examine the utility of the modules within the context of the inservice delivery systems used in the field test. All three levels of analysis included the integration of statistical and narrative information through logical and intuitive analyses by the director. A rationale and supporting documentation were provided to support the conclusions drawn in all analyses.

Revision Criteria

As the analyses were being completed, a number of criteria and guidelines were developed to facilitate the consistent identification of suggestions for revision. In the micro-analyses, these criteria were not identical across all modules because of the variation in the scope of field testing and formative evaluation completed on individual modules. A section of each micro-analysis in the following chapter spells out as explicitly as possible the revision criteria for the module.

After the micro-analyses were completed, specific criteria for suggesting needed modifications from the macro-analysis were identified. The criteria utilized are delineated specifically in the information utilization section in Chapter V, but included the cross-validation of needed modifications from more than one information source, as well as from more than one module micro-analysis.

Minimization of Developer Bias

One of the barriers to be overcome in the development and formative evaluation of educational materials is the bias of the author as it is reflected in philosophical preferences, format preferences, and preferences for particular methodological or content features of the material. Several features of this formative evaluation design were built-in to guard against undue influence of the biases of the author of the modules, who also served as director of the formative evaluation.

Data collected from specific sources, such as the field test participants, were cross-validated with data from other sources in as many instances as possible. The reported perceptions of inservice needs, outcomes, and other similar data were sought from a combination of participants, administrators, and other personnel to validate specific findings in the formative evaluation.

The utilization of two different inservice field test designs was also intended to help minimize the developer bias concern. Field test plan A tested the modules in an independent, small group arrangement in which the director had only limited influence on participant utilization of the modules over the 12 week field test.

In addition, a memo which strongly outlined the responsibility of the participants to evaluate the modules critically and without reservation or concern for their course grade was distributed and discussed at the initial orientation session at both sites. This memo, which in included in Appendix T, was reread to or by the participants at both sites twice during the field testing as well.

Two independent evaluation techniques were also incorporated in the formative evaluation design to aid in objectifying the process of collecting formative data and information. Three graduate students acted as participant-observers in the field test inservice sessions. Each participant-observer used a common observation reporting format, and was trained in a group situation prior to initiation of the field testing. The participant-observer report format is included in Appendix P.

A second independent evaluation technique was the development of five teacher portrayals by the primary participant-observer. As described earlier, this person, who also served as the graduate research assistant consulted with two professional evaluators with expertise in the use of portrayals to develop the portrayal format and to prepare accurate and cogent descriptions of how these teachers were reacting to and using the modules two months after the field test had been completed.

IV. PRESENTATION AND ANALYSIS OF FINDINGS

This chapter is organized to present and analyze the findings of this study in a specific-holistic context. The major sections of the chapter are as follows:

Section 1: Formative Micro-Analyses of Individual Modules. This section presents data from the contextual, internal and external information sources used in the formative evaluation activities. A micro-analysis of these data as they pertain to revision or modification of each of the individual modules is presented.

Section 2: Formative Macro-Analysis. This section is intended to compare and contrast the findings and formative modifications from the seven micro-analyses. Findings and modifications regarding the composite set of modules are presented here.

Section 3: Evaluative Outcomes Analysis. This section addresses each of the key evaluative questions presented in Chapter I, utilizing the formative micro- and macro-analyses as a data base.

Formative Micro-Analysis: Module 1

It should be noted at the outset of this discussion that the modules are presented here in their revised sequence. They were not field tested in the numbered sequence in which they are presented here. The rationale and description of the resequencing which occurred following the completion of the analyses is presented on pages 235-236 in Chapter V.

Module 1 included three inservice experiences focused on identification and analysis of special needs students. The activities included in this module addressed the processes of: (1) collecting information prior to referral; (2) developing a profile of learning strengths and weaknesses of individual students; and (3) preparing a learning prescription based on the learner's profile. These inservice experiences comprised the initial module in the series of seven.

Scope of Formative Evaluation. Module 1 was the third module introduced during the field testing, following Module 2 which focused on developing a cooperative instructional arrangement. It was introduced at Site A, the independent selection site, along with Module 3 during the second week of field testing. At Site B, Module 1 was introduced at the third class meeting.

As shown in Table 3, Module 1 was evaluated extensively. Almost every participant at both field test sites completed one or more of the inservice experiences. Module Feedback Instruments were received from all of the participants. In addition, of the eight Expert Review Team (ERT) members who reviewed this module, five returned Module Feedback Instruments and Module Utilization Checklists.

Validation of Competencies. Four competencies, included in Competency Questionnaires I and II, were the direct focus of the instructional content of Module 1. After the results of the second questionnaire were tabulated, two of the competencies ranked relatively high, while the other two ranked relatively low. Of the 32 competencies reviewed by the ERT on the two questionnaires, "Refer special needs learners to guidance staff and other specialists" had a mean criticality rating of 4.376 on a 1-5 point scale. This competency ranked fourth in the final mean criticality ratings. "Collaborating with other educators, specialists, and parents in evaluating the learner's educational needs" was also highly ranked. This competency had a mean criticality rating of 4.354 and was ranked fifth in the final mean ranking of the 32 competencies.

Two other competencies, "Using a screening-referral process" and "Developing a composite profile of learning characteristics of a group of special needs

Table 3

Scope of Formative Evaluation of Module 1

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	1.0 hours	3.0 hours	—
Number of participants completing			
Inservice Experience 1	19	2	—
Inservice Experience 2	19	6	—
Inservice Experience 3	19	3	—
Inservice Module Feedback Instruments returned	19	10	5
Module Utilization Checklists returned	—	—	5

learners," received relatively low criticality ratings (3.759 and 3.466 respectively) and were ranked 28th and 32nd overall.

Generally, the ERT rated two of these four competencies as being equally critical for vocational teachers, special education teachers and consultants, counselors, and work-study or cooperative education coordinators, and rated one of the four as being noncritical for all types of staff. The competency suggesting the development of a composite profile of learning characteristics for a group of special needs learners was rated extremely low for all professionals. On the other hand, "Collaborating in evaluating learning needs" and "Referring to specialists" were rated relatively high for all professionals involved in instructional development. The fourth competency under consideration here, "Using a screening-referral process," received relatively high criticality rating, for special education personnel (4.393) and counselors (4.250). However, this competency was considered to be generally unimportant for vocational teachers (3.107) and coordinators of work-study or cooperative education programs (3.286).

It was apparent that the ERT felt the most critical competencies in this initial module involved "Collaborating with other educators in the process of assessing individual learning needs" and knowing how and where to refer students for special services. In addition, screening and referral for purposes of identification was critical for special educators and counselors, but relatively unimportant for vocational educators. Collecting and compiling information to "Develop a composite profile for a group of special students" was considered an unimportant competency across the board. Several narrative comments included on the returned instruments suggested that the development of "group" profiles was not a functional and useful activity.

Contextual Data. The special education and special needs referral forms used at both field test sites were reviewed prior to the field testing. In all instances, the forms requested information similar to that requested on the example referral form included in Inservice Experience 1. Copies of the local district's forms were made available to the participants to use in Module 1 in lieu of the example form, if they so desired.

The pre-field test interviews with the local directors of vocational education and special education at both sites revealed several interesting factors relative to identification and assessment procedures. In both districts, classroom teachers initiate between 70% and 90% of the referrals identifying special needs learners. Most frequently, they collaborate with the counselor or building principal in completing the referral paperwork ". . . because these individuals have full access to student data." Counselors are the second most frequent initiators of referrals in both districts.

In both districts, clear distinctions appeared to have been made between "special needs students" and "special education students." If a special education eligible student enrolled in a vocational education class, he or she was automatically reported as a handicapped student on the annual reimbursement claim to the Division of Adult, Vocational and Technical Education, Illinois Office of Education. However, only about 1/4 to 1/3 of the total number of students claimed for special needs reimbursement were eligible for special education services in either district. The vocational directors at both sites noted that between 65% and 75% of their special needs students are claimed as "disadvantaged," and programs for disadvantaged students at the secondary school level were not provided under special education in either district.

Directors at both sites indicated that the number of special needs students identified in the past three years increased by 25% to 35%. The reasons cited for the increase in identification included: (1) new classes and special services were created; (2) methods for identification were improved; and (3) the availability of psychological services at the secondary level was increased.

When asked how effective they felt their identification process was, the vocational education and special education administrators responded differently. The vocational administrators at both sites suggested it was noneffective because ". . . teachers can seldom get together for staffings." Another observation was that ". . . the information generated isn't totally accessible, nor can the teachers interpret it." In both instances, the vocational administrators were referring specifically to the teachers and coordinators on their staffs. The special education administrators, on the other hand, rated their current identification process as "effective," but not "highly effective." The principal shortcoming cited was a shortage of psychological services at the secondary school level.

In both districts, staffings were cited as the primary source of assessment information on special education students. There appeared to be no formal provisions for "staffing" disadvantaged students who might be classified as having special needs, but not eligible for special education services. One director of special education noted that, "Generally, there is low attendance by the vocational staff at staffings (although all of the student's teachers are invited), because these kids have fewer problems in their classes." One director of special education acknowledged that the psychological reports that are written following a staffing ". . . do not always provide practical and useful information for the teacher."

When asked to identify the most critical areas of needed staff inservice relative to the identification and analysis of special needs learners, several interesting observations were made. The directors at Site A identified nearly twice as many instructional practices for staff inservice at various levels as did the direstors at Site B. "Developing learning prescriptions" was identified by all four directors as an important staff inservice need.

At Site A, "Collaboration in evaluating learning needs" and "Developing a composite profile of group learning characteristics" were also rated as important areas of inservice need.

Internal Data - Pilot Review. Module 1 was one of three modules reviewed by 20 vocational and special education teachers and teacher educators in July, 1975. The procedures used in this pilot review were described in Chapter III.

Inservice Experience 1 was basically left unchanged after the pilot review with the expeption of a few minor revisions. In the pilot test edition of Module 1, the second inservice experience was a combination learner analysis and prescription activity. It was suggested by three special education pilot reviewers that these are separate functions and should be presented in separate inservice experiences. After the pilot review, a number of other modifications were made based primarily on the comments and reactions of special educators who were knowledgeable and experienced in this area. The modifications incorporated in the field test edition of Module 1 included:

- Refining several of the criteria for identification (special need indicators) listed on the Learner Analysis Profile
- Changing the rating format for the special need indicators on the Learner Analysis Profile from a "Yes-Uncertain-No" scale to a five step "Learning Difficulty-Learning Strength" continuum
- Adding writing space to each of the special need indicator categories for respondents to add their own indicators
- Adding a narrative section briefly describing how to systematically observe and report classroom behavior on the Learner Analysis Profile

- Deleting the Composite Learner Analysis Profile form because of the low criticality ratings given to this competency by the ERT.

Internal Data - Expert Review. The field test edition of Module 1 was mailed to eight members of the ERT for review. Module Feedback Instruments and Utilization Checklists on Module 1 were returned by five of the reviewers.

There was general agreement among the reviewers that there were no minor or major modifications needed for most of the 40 review criteria identified for Module 1. These review criteria were spread across the eight major sections of the module. On six of the criteria, however, two of the reviewers (40%) noted some modifications as being necessary. These criteria include:

Attainability of module goals
Clarity of Inservice Experience 1
Usability of forms in Inservice Experience 1
Language used in Inservice Experience 2
Usability of forms in Inservice Experience 2
Usability of forms in Inservice Experience 3

Several narrative comments were offered by the reviewers which provided suggestions for improving or clarifying certain sections of Module 1.

> In Inservice Experience 2, the vocabulary is too high. Some vocational teachers are not college graduates so they will have no special education or psychology background.

> The terminology on the Learner Analysis Profile (Inservice Experience 2) may be new to many teachers. Is vocabulary comprehension of these terms a prerequisite for the module?

> In the Participant Response, are these three inservice experiences optional, suggested or highly suggested? After reading through, it is obvious that one attempts to build on the preceding one. I would have the teachers do all of them.

> Inservice Experience 3 (Learning Prescription) remains too abstract. Without a concrete example or case study, the form is too general to be useful to a teacher.
>
> Some suggested readings or supplemental resources should be listed for those who find the module too brief.
>
> Provide a glossary of terms with examples as well as definitions for all of the Learner Analysis Profile terms.

When asked what they liked the most about Module 1, the reviewers offered the following comments:

> It is direct, to the point, and easy to read. Content is very appropriate.
>
> The basic steps: identify student, find his profile and plan. Including all personnel involved not just the special education staff. This prevents 'dumping' the problem into special education.
>
> Learner Analysis Profile.

Only one reviewer responded in the section for comments as to what was the least liked about the module: "It is a bit too simplified in its concise, direct approach."

Internal Data - Product Review. As noted earlier, the majority of field test participants at both sites did submit inservice products from Module 1. At Site A, the participants were informed that if they chose to focus their instructional development on more than one special needs learner, they could complete and submit copies of specific forms on each student they identified. Several Site A participants did identify more than one student for Module 1. As a result, 32 completed Student Information Forms (Inservice Experience 1) were received from 19 participants at Site A. Twenty-five completed Learner Analysis Profiles were received from 19 participants at Site A, as well as 25 completed Learning Prescriptions from 19 Site A participants.

At Site B, six participants submitted completed Learner Analysis Profiles, while two submitted Student Information Forms and three submitted Learning Prescriptions.

The Product Assessment Checklist presented in Appendix J was used by the director in evaluating the completed products. On the whole, the products submitted were complete and contained relevant information consistent with the guidelines for development presented in the module.

One of the key product evaluation considerations was whether or not the involvement of other teachers was reflected in the completed product. The Learner Analysis Profile (Inservice Experience 2) specifically provided for this by calling for the involvement of an "appraisal/assessment team." Of the 21 completed profiles that were submitted, all but two listed more than one person as having been involved in the assessment of a particular student. On approximately half of these forms (14), one of the persons listed was not a participant in the field test. On several of the profiles, teachers had made their individual assessment of the learner's strengths and weaknesses and then developed an overall or consensus rating. This approach was initiated at both sites and appeared to foster a great deal of communication between the participants, even though it was not included in the guidelines for developing the Learner Analysis Profile.

External Data - Participant Feedback. A total of 29 Module Feedback Instruments were received from the field test participants at both sites. This represented a 100% return. After having used the forms and procedures extensively, the reaction to Module 1 at both sites was generally favorable with only limited suggestions for modification. For 39 of the 40 review criteria identified for the module, at least 75% of the participants agreed that no modification was needed. The criterion on which nine of the 29 participants (31%) cited needed modifications was the "helpfulness of suggestions" in Inservice Experience 1, Collecting Student Identification Information.

The participants' general evaluation of the module was also quite favorable. The module was generally considered to be relatively concise, well organized, clear and fluent. All of the participants felt the module contained meaningful objectives with supporting content for reaching those objectives. All but one of the 29 participants saw the resource materials as being adequate and useful.

The mean time estimate for completing the inservice experiences in this module was considerably different between the field test sites. At Site A, the 19 participants estimated the time required for completion as 7.0 hours. At Site B where three hours of direct instructional time was provided, the participants' mean estimate of the time required to complete the module per student was 4.3 hours. The mean of the five estimates from the ERT was 8.0 hours.

When asked to indicate what they liked best about the module, 25 of the 29 participants provided comments which highlighted Inservice Experience 2 (Developing a Learner Analysis Profile). Other comments reflected on such aspects as: the team involvement, the simple yet comprehensive method, the "total picture" of a student generated by the module, the level of understanding gained about students from completing the module, and the philosophy projected by the implicit approach. The following is a sampling of the participant comments indicating what they liked the most about Module 1.

> The Learner Analysis Profile is precise, concise, a usable, workable form.
>
> It gives me not only a chart, but kind of a picture of the student.

> The Learner Profile offers great ability to see the other teachers' perception of a student's needs, failures, and strong points.
>
> The Learner Profile gives 'common grounds for observation/understanding' by the team members.
>
> I like the profile the best because it forces one to understand the student better through careful completion of the inservice experience.
>
> Emphasis on observed behavior, emphasis on ongoing evaluation of student, emphasis on effect rather than cause.
>
> Involvement of team. Form is simple enough for guide, easy reference.
>
> Very well organized.
>
> The philosophy it projects.

In their comments describing what they liked least about this particular module, eight of 29 participants implied suggestions for improvement. A representative sample of the comments is provided below:

> If anything, it would have been the lack of examples in Inservice Experiences 1 and 3, but no problem.
>
> Inservice Experience 1 (Collecting Student Identification Information) was too vague as to exactly what was wanted. Improvement in the form would make it more meaningful and easier to use.
>
> Learner Profile content does not list how you rate the learner. It covers such a wide area and involves so many different people that it takes a considerable period of time to gather information.
>
> Some things in the Learner Profile are unclear, e.g. 'awareness of educational procedures.'

A number of specific recommendations were also provided by the participants. Several of the recommendations were minor, intended to clarify certain concepts or improve the format of the module in some way. Other recommendations, such as those presented below were more substantive.

> The self-evaluation should immediately follow the individual inservice experience.
>
> Some of the areas on the forms need clearer definitions.
>
> More prevocational, career goal, or career-related information to profile.
>
> Combine all three forms on one sheet.
>
> More examples on all forms.
>
> Expand section on observable behavior.
>
> For the learning strength-difficulty scale, there is no suggestion as to what each is or how to determine rating for each.
>
> Expand learning modes.
>
> Add ideas for getting information into the hands of the other teachers of the special needs learner.
>
> On the Learning Prescription form (Inservice Experience 3) add a section where the individuals' learning style can be described and leave ample space for this.

External Data - Participant Practices and Perceptions. Identical pre- and post-field test needs assessment instruments were used to assess the relative amount of time the participants spent using selected instructional practices in working with special needs learners. The post-field test instrument reflected a substantial increase in the relative amount of time the participants reported spending on the instructional practices presented in Module 1. For each of the four instructional practices pertaining to learner identification and analysis, the smallest mean increase on the 0-7 point scale was 1.069 ("Identifying the learning characteristics of a group of special needs learners"). The largest mean increase was 1.586 for "Working with other educators, specialists, and parents in evaluating the learner's educational needs." Interestingly, this practice, which emphasizes cooperation between professionals, was rated the highest overall in terms of relative time spent performing (5.276) on the 0-7 point scale.

There were no major differences in the reported relative time spent on these four instructional practices when the data were separated and examined by field test site or by school program setting (junior high, high school, and area vocational center). However, special education personnel consistently reported higher levels of time spent on the four practices dealing with learner identification and analysis than did vocational education personnel.

Prior to the field testing, the participants were most interested in learning more about how to "Identify the learning characteristics of a special needs group." Although not as intense, their primary interest in Module 1 following the workshop was in "Developing learning prescriptions." For each of the four instructional practices, the participants' interest in wanting to know more about it was lower following the field testing, indicating the module had, to some extent, fulfilled their needs. The mean scores from the pre- to post-measure of perceived need dropped by as much as 1.037 scale points and as few as .486 scale points.

External Data - Participant Logs. Of the 95 logs submitted by the participants during the field testing, several contained references to Module 1. It was apparant that the majority of the participants had spent several hours working with Module 1 over a two to three week period. The majority of comments in the logs relating to Module 1 reiterated the concerns reported on the Module Feedback Instruments. Several of the comments, however, reflected some deeper feelings and concerns relative to the content of Module 1. These are presented below.

> I felt the Learner Profile was worthwhile. It made me stop and think of the individual need indicators which make Leonard who he is.
>
> I acquired a new EMH student two weeks ago, at the beginning of the quarter. I feel that I don't know Tammy very well yet, but the EMH teacher, her aide, and the art teacher were helpful in filling out the Learner Profile.
>
> After working through the module, I feel I understand Kevin's problems, needs, and strong areas a little better.
>
> It made me realize there are other good sources of information in the school.
>
> I liked this module. I feel I know Mark better now that before the information was collected. Also, the information is now in one place where it's easy to find. The learning prescription will help to keep the teacher on task. Sometimes we go off in another direction than our students.
>
> The Learner Profile was very interesting and helpful as it gave me some new insights with Jimmy's interests, abilities and aptitudes. Dawn and I pretty much agreed on most aspects. The coach saw some real potential and ability in Jimmy that Dawn and I hadn't known about, which is exciting.
>
> Module 1 has been quite valuable. It has made me understand how to work with Joe better. I intend to keep revising the prescription throughout the remainder of the year. I really feel this module should be used with all special ed. kids, especially the Learner Profile and Learning Prescription. It is quite time consuming but most beneficial.

External Data - Teacher Portrayals. Of the five narrative portrayals describing the utilization of the modules by selected teachers following the field testing, two contained specific references to Module 1. The first was found in the portrayal describing a high school special education work-study coordinator at Site A.

> The learner identification task appeared to be an extremely easy procedure with much of the information already being available in the student's folder. I felt like all I was doing was copying down the information onto the forms, although it was good to review . . . A student in a regular class tends to have less information available because he doesn't have to go through all the testing procedures . . . This task may be more involved for the regular classroom teacher in that it may entail a lot of digging for the information.

The second portrayal which directly mentioned an additional perspective on Module 1 described a high school vocational teacher/coordinator at Site B. His comments along with those of the portrayal author are presented below:

> . . .'I thought the Learner Identification Analysis was exceptionally good!' He (the teacher/coordinator) also tried to get other staff members involved in this type of team assessment . . . 'It puts a handle on some things to look for while involving other teachers.'

Suggested Modifications: Module 1

The purpose of this final section of the micro-analysis is to put forth a series of suggested modifications for Module 1 based on the formative evaluation information presented herein. Prior to specifying the suggested modifications, specific criteria for determining which suggested modifications were to be included were identified. Because the scope of the formative evaluation of this module was relatively extensive, it was felt that only a 25% consensus of agreement among the participants as to specific changes was needed. As in the other micro-analyses, it was also considered essential that any suggested modification be identified as needed by more than one information source.

Table 4 on the following pages provides a series of suggested modifications which reflect a synthesis of the formative evaluation data. A supporting rationale statement and identification of the information source are provided for each suggested modification.

Formative Micro-Analysis: Module 2

Module 2, which focuses on developing cooperative teaching arrangements, was originally included in the pilot version of Module 3 and was entitled: Instructional Resources and Arrangements. The only inservice experience included in this module involved the development of a "cooperative instructional arrangement." Formalizing this "arrangement" required the identification of teachers and other personnel who functioned as a "team" in providing the educational program and necessary supportive services. This "team concept" represents the basic approach used throughout the module series. Thus, Module 2 served more of a "staging" or "facilitating" purpose than a direct instructional development purpose as do the other modules. Because of this facilitative characteristic and its criticality to implementing each of the other modules, Module 2 was added as a separate module following the initial pilot testing.

Scope of Formative Evaluation. Although this module was numbered "2", it was the first module utilized at both field test sites. It was selected by the director as the initial field test activity with the rationale that the identification of the cooperating teams of instructional and supportive services personnel was a logical and necessary first step for all participants. Consequently, this module was more extensively field tested than any of the others. Each of the participants at both sites submitted the single inservice product, a completed form indicating the Cooperative Instructional Arrangement (CIA) they had established.

Table 4

Formative Micro-Analysis Summary: Module 1

Section	Suggested Modification	Rationale	Supporting Information Source
Description of Inservice Experiences and Participant Response	Describe the relationship among the different inservice experiences in the module, indicating to what extent completing one or all is instrumental to completion of the others. Serious consideration should be given to requiring the user to complete all of the inservice experiences.	Two expert reviewers indicated this optional arrangement for selecting and completing the experiences was confusing, and indicated the need to really do all of them if a complete assessment was to be realized.	Internal Expert Review
		The vast majority of participants at both sites did complete all three inservice experiences without differentiating among them, suggesting that the users preferred to do all of the identification and assessment experiences rather than selecting individual experiences.	External Participant Feedback
Inservice Experience 1 Collecting Student Identification Information	Delete this experience from the module, and replace with a brief general description of the referral process and include several different referral forms commonly used.	School districts use different identification/referral forms requiring different information.	Contextual Data
		31% of the participants indicated some modification was needed relative to the "helpfulness of the suggestions" provided in this experience.	External Participant Feedback
		Six participants indicated that this information is usually available on identified special education students, and they felt the experience simply involved recopying information onto a new form.	External Participant Feedback External Participant Logs
Inservice Experience 2 Developing a Learner Analysis Profile	Refine some of the "special needs indicators" listed on the Learner Analysis Profile, and add a glossary defining the terms used as "special need indicators."	Several participants expressed concern over the unclear meaning of certain indicators.	External Participant Logs
		Two expert reviewers expressed concern over the difficult technical language in this experience.	Internal Expert Review

Table 4 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Inservice Experience 2 Developing a Learner Analysis Profile	Add a section to the Learner Analysis Profile that would describe the student's vocational interests.	Recommended by seven participants.	External Participant Feedback
	Add more completed examples of Learner Analysis Profile.	Three junior high personnel noted that the example provided did not totally reflect information appropriate for their needs.	External Participant Feedback
		Participants representing different vocational program areas requested additional examples.	External Participant Feedback
Inservice Experience 3 Developing a Learning Prescription	Add a completed example and case study illustrating how other teachers can use the form.	Several participants noted that a completed example of the form was inadvertently omitted from the field test edition of Module 1.	External Participant Feedback External Participant Logs
		Two of the expert reviewers also indicated a specific need for completed examples and a case study to increase the usability.	Internal Expert Review
Self-Evaluation	Move the self-evaluation checklists to the end of each inservice experience.	Three participants indicated this would encourage the user to check his work upon completion of each experience rather than at the end of the module. This would provide more immediate feedback to the user.	External Participant Feedback
Resource Bibliography	Add a number of references for each inservice experience.	One expert reviewer noted that because the module was brief and lacked depth in certain areas, specific directions for the user to review suggested readings or supplementary resource material should be provided.	Internal Expert Review
		The resource bibliography in this module listed only three references.	

Several of the participants submitted more than one CIA form because they decided to focus their inservice activities on more than one of their special needs learners.

Ten members of the ERT received Module 2 for review and critique. After one and, in some instances, two follow-up telephone calls, Module Feedback Instruments and Module Utilization Checklists were received from six of the reviewers. The scope of the formative evaluation of Module 2 is shown in Table 5.

The initial pilot test edition of Module 2 was reviewed by vocational and special education teachers and several teacher educators during the summer of 1975. This aspect of the formative evaluation is described in a later section.

Validation of Competencies. There was one competency identified in the initial list of 32 which served as the major basis for Module 2. On the two competency questionnaires utilized by the ERT, the competency was identified as "Formalize a cooperative, team teaching plan by identifying the appropriate career-related and special education programs and/or services for each special needs learner."

Although the competency ranked 19th in the final mean ranking of the 32 instructional development competencies for secondary school personnel serving the special needs learners (vocational teachers, special education teachers and consultants, counselors and cooperative or work-study coordinators), it was regarded as being a critical competency for vocational and special education teachers. The mean criticality rating of the competency for special education teachers and consultants was 4.276 on a 1-5 point scale with 5 being described as "extremely critical" to the overall effectiveness of a special needs program. The mean criticality rating for vocational teachers was also high at 4.179. The mean criticality ratings of this competency for counselors and coordinators were 3.852 and 4.074 respectively.

Table 5

Scope of Formative Evalution of Module 2

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instruction time	2.0 hours	3.0 hours	—
Number of participants completing Inservice Experience 3	21	8	—
Inservice Module Feedback Instruments returned	19	8	6
Module Utilization Checklists returned	—	—	6

After the second and final questionnaire results had been tabulated, "Formalizing a cooperative instructional arrangement" moved from 20th to 19th in the overall ranking of the mean criticality ratings of the 32 competencies.

Contextual Data. Several interesting insights were gained from the pre-field test administrator interviews and document analyses that were completed.

At both field test sites, little agreement between the vocational and special education directors was reported in their observations of the cooperative instructional planning tasks engaged in by their teachers. The vocational directors in both districts reported having observed such cooperative activities as the exchanging of technical-word vocabulary lists, the collective planning of specific instructional units, and teachers working collectively with community agencies. The special education directors, however, reported that cooperative involvement in child study teams or placement staffings was the predominent form of cooperation they had observed. A reason cited for limited cooperation was that "they (vocational and special education personnel) have limited exposure to each other, particularly at the high school level." It was also noted by one special education administrator and supported by informal discussions with the participants, that oftentimes vocational education personnel chose not to participate in the staffings because ". . . these kids tend to have fewer academic or behavioral problems in vocational and physical education classes."

A review of the instructional planning procedures and documents utilized in both districts revealed that no common format within either district was utilized. Special education regulations for the State of Illinois require individual educational plans be maintained. The forms used for developing these educational plans at both sites did not clearly indicate a curriculum responsibility for vocational education. Conversely, the instructional program objectives and course outlines developed by vocational educators at both sites did not provide for cooperative or supportive teaching by specialists for the purpose of serving special needs learners.

The administrators in both districts were asked to identify the professional competency areas in which they felt their junior and senior high school staff needed additional inservice. Each of the four administrators indicated that their staffs at both levels could benefit from inservice focusing on "Formalizing cooperative teaching plans or arrangements."

Internal Data - Pilot Review. The pilot edition of Module 2 was written in early summer, 1975, and reviewed by 20 individuals from the fields of vocational and special education. Much of the pilot data was collected in face-to-face interviews with practicing teachers enrolled in summer school courses and teacher educators after they had an opportunity to read the module. An earlier draft of the Module Feedback Instrument was also pilot tested as part of this activity.

Several suggestions were obtained on the original edition of Module 2 from the pilot reviewers. Among the suggestions which were incorporated in the next edition were: (1) integrate the presentation of the resource materials and forms for each inservice experience with the guidelines and suggestions section for that inservice experience; (2) reverse the order of the "module goals" and "introduction" sections, placing the latter before the former; (3) print the resource materials and forms on colored paper; (4) provide completed examples of all forms to be used by the participant; (5) put brief directions for use on each of the forms to be completed; and (6) modify the description of the module as "semi-self-instructional" in nature to "inservice resource materials." These general suggestions were incorporated in the organization of modules written following this initial pilot review of Modules 1 and 2.

With regard to Module 2 specifically, the pilot review provided two suggested modifications which were incorporated in the field test edition. First, Module 2 was separated from Module 3, and constituted as a separate module because three of the reviewers noted that Module 3 contained two distinctly different inservice activities. The original title, "Instructional Resources and Arrangements," and module content was felt to convey the idea that these two activities were closely associated in purpose, when actually they were not. The second modification involved revision of the CIA form: (1) to have it organized for one student instead of a small group of special needs learners; (2) to drop the confusing distinction between basic and additional options in the cooperative arrangement; and (3) to condense the form so it would fit on one page.

Internal Data - Expert Review. Six of the ten members of the Expert Review Team (ERT) returned the Module Feedback Instruments and Module Utilization Checklists. This was the largest number of reviews received on any of the field test editions of the modules.

The detailed reviews provided by the ERT were quite informative regarding specific sections of the module. In the following areas, at least two reviewers indicated some or major modification was needed: The language used in the introduction and rationale section is too technical, e.g. "Terms like the Cooperative Instructional Arrangement are just too fancy." Other reviewers noted that the interest-capturing ability of the introduction could be strengthened ". . . by including an illustrative case study." Use of an example was also suggested to further clarify the introductory section describing the single inservice experience contained in the module. The "comprehensiveness" of the inservice experience was also an area of concern. It was suggested by two reviewers that more example plans for cooperation and student class schedules could be added. Plans or CIA's for junior high special needs learners were recommended, as well as plans to involve several outside agencies.

The reviewers of Module 2 estimated the time needed to complete the "Formalizing of a cooperative instructional arrangement" activity for a student as ranging from one to ten hours, depending upon the number of cooperating parties to be consulted.

In the overall assessment of Module 2, the ERT seemed to feel that it was somewhat technical in its approach and level of language, contained meaningful objectives, and contained content highly related to the objectives.

When asked to respond to the question of what they liked most about the module, the following comments were provided:

> Directs itself toward relevant objectives.
>
> Content—good example of a cooperative arrangement provided.
>
> Well planned—shows what needs to be done and outlines a plan for doing it.

Several constructive suggestions were also obtained from the reviewers' comments in regard to what they liked the least about Module 2.

> Lacking in multiple examples of how and what a plan for cooperation should be.
>
> Level of the language.
>
> It appears to me that this needs more emphasis on overcoming the attitudes related to serving the handicapped. Put in more rationale on 'why' cooperation is needed.

Internal Data - Product Review. All 29 field test participants completed and submitted at least one inservice product from Module 2. The only product to be completed was the Cooperative Instructional Arrangement form. In addition, six participants chose to develop and submit more than one CIA form because they were focusing their instructional development efforts on more than one student. At Site A, two participants submitted two CIA's, three participants submitted CIA forms on three different students, and one participant developed different CIA forms for four students A total of 41 completed CIA forms were available for the product review.

The director reviewed and evaluated each of the CIA forms as they were submitted, using the Product Assessment Checklist. Generally, the completed forms were found to be detailed, and similar to the example provided in the module. The completed CIA forms reflected different degrees of cooperation. At both sites, approximately 1/3 of the products specified cooperation between two provisions, 1/3 noted involvement of three provisions and 1/3 noted the cooperative involvement of four provisions. About 2/3 of the completed forms identified one or more administrators by name in the administrative endorsement section. Approximately 1/3 of these were identified by signatures, indicating that the administrator had reviewed the form. Several different interpretations of the meaning of each of the four provisions for cooperative involvement were noted in the products reviewed.

All of the teacher/coordinators identified themselves as providing the career related instruction component. In some instances, they could have logically identified other classroom vocational instructors working with the student, but chose not to do so.

Four of the participants, who are employed at an area vocational center, encountered difficulty in identifying special education personnel at the home high school to fulfill the special instruction or services provision. Consequently, on this section of the CIA form they tended to identify such cooperators as counselors, their teaching aides, and school psychologists.

The supportive agency provision on the CIA form was interpreted differently by several participants. In this provision, the classroom teachers tended to identify school psychologists, reading specialists, and other school district employed professionals who visited their building on a consulting basis. Several of the teachers at the area vocational center listed the home school counselors in the supportive agency provision. In both instances, these interpretations were not consistent with the guidelines and suggestions presented in the module for filling out the CIA form.

In the cooperative work experience provision, both in-school and out-of-school training stations were listed. The CIA forms completed by the junior high school participants tended not to include this provision in their arrangement because most of their students were under the legal age limit for obtaining employment.

One interesting modified use of the CIA form was demonstrated by a junior high special education teacher who worked in a resource room situation. For one of her students who was mainstreamed, she developed a multiple page CIA form on which she listed herself and the other resource room teacher in the building as the providers of special instruction and services. Under the career-related instruction provision, she listed each of the student's regular class teachers, including the industrial arts teachers, and described the instructional content provided by those teachers.

The results of the product review indicated that there are potentially several different uses of the CIA form that go beyond the single, comprehensive high school example provided in the module. It appeared that effective utilization depends upon the organizational arrangement of the school program in which it is to be used. Participants from junior high schools and area vocational centers encountered the greatest difficulty in completing the CIA form because the example provided was not readily adaptable to their situation.

External Data - Participant Feedback. As noted earlier, Module 2 was the first module to be introduced at both field test sites. Consequently, substantial and detailed feedback was obtained from the participants during and after they had completed Module 2. At Site A, a total of 19 participants submitted Module Feedback Instruments on Module 2, while at Site B, eight feedback instruments were received. It should be noted that the majority of the feedback instruments were completed during the second and third weeks of the field test. At this time, several of the participants indicated in informal discussion with the director, as well as in their logs and on the feedback instruments, that they were uncertain as to how things would develop throughout the field testing based on this Cooperative Instructional Arrangement. As an introductory activity, this module appeared to raise concerns as to what might follow. As will be noted in the analysis of the participant logs, some of this is attributable to their apprehensions about working with others in a formal arrangement.

The participants were asked to review Module 2 in light of 24 specific criteria pertaining to the six major sections of the module. On 22 of the 24 review criteria, there was a 72% or greater consensus that no modifications were needed to the specific section mentioned in the criteria. However, more than 1/3 of the participants felt that some modification was needed in terms of the interest-capturing capacity of the introduction section and the attainability of the stated goal of Module 2. This latter comment suggested that the participants felt the goal of formalizing a cooperative, working arrangement was, for some, unattainable. No specific comments were offered to indicate how the goal might be restated to be considered more readily attainable.

In their overall evaluation of Module 2, the participants felt that it was somewhat wordy and rambling, but well organized. The general, overall evaluation brought mixed reactions regarding the length of the module, the meaningfulness of the objectives, the fluency of the narrative, and the formality of the language.

The estimates of time required to read Module 2 and complete the Cooperative Instructional Arrangement for one student were based on the actual time required to do this during the field testing. The estimates from participants at Site A and Site B differed very little and averaged one to three hours.

Twenty-seven of the 29 participants provided comments on the feedback instrument when they were asked to identify what they liked most about Module 2. The following is a representative sampling of the comments provided:

> Taking care of the individual needs of students.
>
> Clear and simple.
>
> Forms provided.
>
> Sharing information and ideas on the CIA forms.
>
> It establishes a grouping of people who can provide some meaningful experiences for special needs learners.
>
> Working and planning with Sandy (the special education teacher). I like the idea of school, business, and special services working together and that the administration is informed.
>
> It forces you to coordinate your efforts and plans with other instructors, thus making the student's achievement your number one objective.

> It provides a good outline and procedure with forms for arranging a team approach. This district has had a prevocational program since 1960, but it has been viewed by other staff for too long as the 'special' but separate program. If accepted by all staff members (many do accept it now), the special needs student would benefit from the CIA.

> Organization and ideas.

> Well set up for content. The CIA made a lot more sense for what I do in my classes.

> The idea of working together to benefit the student.

Fifteen of the 29 responding field test participants also provided comments when asked what they liked least about Module 2. In most instances, specific recommendations were also provided by the responding participants, indicating how the least liked features could be improved. Four of the least-like comments indicated there was nothing that was disliked. The following is a representative sampling of the comments of what the participants liked the least about Module 2.

> If you don't work with kids on jobs the CIA form is nearly impossible. Our school district at the secondary level is very structured and we don't cross lines.

> Not really clear on supportive agency provision.

> Purpose of the administrative endorsement?

> CIA form is not useable in all situations.

> It is unrealistic in my situation as a classroom teacher without modular scheduling and freedom of student movement.

External Data - Participant Practices and Perceptions. Prior to the field testing, the participants reported spending a relatively small amount of time in "Formalizing cooperative teaching arrangements for special needs learners." The mean relative amount of time spent on the pre-field test needs assessment instrument was 2.448 on a seven point scale where the end points were defined as "very little time" and "most of my time." On an identical version of the needs assessment instrument administered after the field test period, the mean relative amount of time reported by the 29 participants was 4.586, a mean increase of 2.138 scale points.

There was virtually no difference in the relative time spent reported by participants at Site A and Site B on either the pre- or post-field test assessment. There were, however, some noticeable differences reported by junior high and senior high personnel in terms of relative time spent on this task. On both the pre- and post- instruments, the means for the junior high personnel were about 1.0 scale points higher, indicating that they were more frequently involved in cooperative teaching.

As a group the participants expressed less of an interest in knowing more about "Formalizing a cooperative teaching arrangement" after the field testing that they did prior to it. Prior to the field test, the participants' perceptions regarding their need for inservice in this area rated only slightly above "yes, a bit more" at 3.345 on a 1-5 point scale, where 3 was defined as "yes, a bit more." At the conclusion of the workshop, the participants still generally felt they needed "a bit more" knowledge relative to "Formalizing cooperative teaching plans," but the mean rating dropped to 3.034.

External Data - Participant Logs. The 95 completed log entries submitted by the participants during the field testing revealed a considerable number of attitudes, feelings, and problems relative to the cooperative approach used in all of the modules. Several of the comments found in selected logs duplicated what the participants had reported on the Module Feedback Instrument. No additional comments were found in the logs which had any direct reflection on the specific content of Module 2.

External Data - Teacher Portrayals. The five teacher portrayals did not contain any specific modification suggestions relative to Module 2. Much of the information provided focused on maintaining cooperative teaching relationships in activities in other modules such as identifying and assessing learner needs. The functioning cooperative relationships occurring in the situations depicted by the portrayals appeared to represent several of the potential relationships described in Module 2.

Suggested Modifications: Module 2

Determining the criteria on which to base recommended changes for Module 2 was difficult. It appeared that because of the in-depth pilot testing and initial review given to this module, there were notably fewer suggested revisions from the field test participants and the ERT.

A considerable amount of direct instructional time was devoted to this module at both sites (a total of five hours), which may have provided the participants with information extending beyond the content of Module 2, and facilitated the participants' use of it. More total direct instructional time was provided on this module than any of the others during the field testing.

Perhaps the major factor which appeared to influence the limited number of suggested modifications was the centrality of the content of Module 2 to the other modules in the series. The cooperative teaching arrangement which was established in this module served as a common approach to the instructional development activities in all of the other modules. At the time the participants pants and Expert Review Team evaluated Module 2, they were generally aware that and the ERT evaluated Module 2, they were generally aware that this module was critical in establishing a working relationship between vocational and special educators that would be utilized in all of the other modules.

Many field test participants appeared apprehensive about critically evaluating the module immediately after using it during the first or second week of the field test. Several expressed feelings of wanting to reserve judgement until they saw "how" Module 2 was to be used in relation to the other modules.

These considerations formed the basis for deciding upon the suggested modification for Module 2 presented in Table 6 on the following pages. For the most part, however, it appeared that Module 2 was technically sound and in need of only minor content and editorial revisions.

Formative Micro-Analysis: Module 3

Module 3 focuses on the utilization of instructional resources and includes inservice experiences which result in the development of: (1) a special needs resource inventory, and (2) guidelines for establishing and using a special needs advisory committee. These two inservice activities are designed to familiarize instructional personnel with the available school and community resources which can provide input for planning, implementing, and evaluating instructional programs and supportive services.

This module was identified by the same title in its field test version, but was numbered as Module 1 instead of Module 3. Chapter V provides the details as to why and how the modules were resequenced.

Scope of Formative Evaluation. Module 3 was extensively field tested and evaluated as shown in Table 7. It was the second module presented at Site B and was introduced at the second session. The participants at Site A also received Module 3 at the second orientation session. Thus, the module was available for use by the participants for 11 weeks.

Table 6

Formative Micro-Analysis Summary: Module 2

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Add a case study illustrating the importance of cooperative instructional arrangements.	34% of the participants and 33% of the Expert Review Team felt the interest generating ability of the introduction was not adequate.	External Participant Feedback Internal Expert Review
		Several participants and one expert reviewer suggested the addition of a case study. An example case study should also help to improve the clarity of the concept of a Cooperative Instructional Arrangement which appeared foreign to many participants.	External Participant Logs Internal Expert Review
	Based on the field test experiences, include a discussion of the different ways in which teachers have attained formalized cooperative arrangements and found them to be useful.	The participants and reviewers generally felt that the stated module goals were clear, but 37% of the group questioned whether they were attainable as stated.	External Participant Feedback Internal Expert Review
Description of Inservice Experiences	Clarify the directions for selection because there is only one Inservice Experience to be selected.	25% of the participants and 33% of the reviewers noted the directions were unclear.	External Participant Feedback Internal Expert Review
Inservice Experience 4 Developing a Cooperative Instructional Arrangement	Include examples of CIA's developed for students in junior high and area vocational center programs. Several examples developed by the field test participants would be usable.	Several participants provided narrative comments that the example CIA included in the module could not be implemented in their situation because their situation was different in some way.	External Participant Logs External Participant Feedback

Table 6 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Inservice Experience 4 Developing a Cooperative Instructional Arrangement	Expand the section on administrator endorsement of the CIA to provide more specifics on how the administrator can be involved in the CIA.	Three participants indicated that they saw the importance of administrator involvement, but had difficulty deciding on how to go about getting him/her involved.	External Participant Feedback
	Clarify the definition or description of the "supportive agency provision."	On approximately 30% of the CIA forms using this provision, this section was misinterpreted.	Internal Product Review
	Indicate more clearly and earlier in the guidelines section that not all of the four provisions listed on the CIA form are appropriate or necessary for all special needs learners.	Five participants reported frustration in attempting to "line up people to represent three other provisions on the form." Several junior high teachers noted that the cooperative work experience provision doesn't apply frequently at their level.	External Participant Logs
	Include the student's class schedule as a resource document for each of the example CIA forms.	Two expert reviewers suggested this would clarify the relationship between the student's regular scheduled classes and which of those teachers or supportive services providers should be involved in the CIA.	Internal Expert Review

Table 7

Scope of Formative Evaluation of Module 3

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	1.0 hours	3.0 hours	—
Number of participants completing			
Inservice Experience 5	5	18	—
Inservice Experience 6	0	2	—
Inservice Module Feedback Instruments returned	29	10	5
Module Utilization Checklists returned	—	—	5

Twenty-three participants completed and submitted products for inservice Experience 5 (A Special Needs Resource Inventory), while two participants completed Inservice Experience 6 (Establish and Use a Special Needs Advisory Committee). All of the 29 field test participants evaluated the module using the Module Feedback Instrument. Five of the nine ERT members receiving Module 3 completed and returned the module evaluation instruments.

Validation of Competencies. Three of the 32 initial instructional development competencies reviewed by the ERT on Competency Questionnaires I and II were considered for inclusion in Module 3. When the mean criticality ratings of each competency across all four groups (vocational teachers, special education teachers and consultants, counselors, and coordinators) were derived and ranked, one of the competencies was ranked at 11.5, while the other two were tied at the rank of 24.5.

"Identify, coordinate, and utilize a variety of school, community, and governmental agency resources in developing instruction and identifying supportive services" received a mean criticality rating of 4.155 and an overall rank of 11.5. The other two competencies which received a mean criticality rating of 3.957 and were ranked at 24.5 were: "Establish and/or use advisory groups in instructional development and program operation" and "Conduct a community needs survey."

While two of these competencies received relatively low criticality ratings when the mean across all four groups was considered, all three competencies were rated relatively high in criticality for cooperative or work-study coordinators. After the second questionnaire, the ERT rated these competencies between 4.207 and 4.724 on a 1-5 point criticality scale.

Certain of these competencies were considered critical (above a 4.0 rating), but to a much lesser degree for special education teachers, vocational teachers, and counselors. Counselors received a 4.138 criticality rating and special education teachers a 4.000 rating for "Identifying and coordinating school, community and agency resources." "Using advisory committees" was also viewed as critical (4.138) for vocational teachers.

Contextual Data. The contextual information for Module 3 was primarily focused on program advisory committees. The pre-field test administrator interviews at both sites revealed that there were no specific advisory committees charged with vocational programming for special needs learners. There were a number of advisory committees for the vocational education programs in both districts, but there was no substantive evidence to suggest that these committees involved representatives of agencies specifically serving special needs students.

Citizen advisory committees, administrator councils, and parent groups were mentioned by the special education directors as the principal vehicles for identifying and coordinating community resources for the special education programs. Here again, no evidence, such as meeting minutes or reports, were identifiable by the administrators as reflecting input for vocational programming at the secondary level.

It appeared that the special education prevocational program itself provided whatever involvement was taking place between the school and supportive service agencies (e.g. Vocational Rehabilitation) and other community resources. One of the special education administrators mentioned that they held an annual banquet for employers and supervisors of the prevocational students.

When asked to identify specific inservice priority areas, the administrators felt nearly all of the competencies in Module 3 were important for their respective staffs. "Identifying and using school, community, and governmental agency resources" was mentioned by all four of the administrators; "Using advisory committees" was mentioned by three of the four administrators.

Internal Data - Pilot Review. Module 3 was initially developed and identified as Module 1, which was entitled Instructional Resources and Arrangements. As described in Chapter III, this module was reviewed by 20 vocational and special education teachers and teacher educators during the summer of 1975. Personal interviews and an early version of the Module Feedback Instrument were used to collect suggestions for revisions prior to the actual inservice field testing of the module.

Based on the suggestions of the pilot reviewers, the Instructional Resources and Arrangements module was divided into two modules, one of which was entitled "Instructional Resources" and the other "Cooperative Instructional Arrangements." This suggestion was offered by two teacher educators in initial interviews and was supported in subsequent interviews with vocational and special education teachers.

A number of minor editorial modifications were made in the two inservice experiences, Developing a Special Needs Resource Inventory and Organizing/Using a Special Needs Advisory Committee, but no major format or content revisions were considered necessary.

Internal Data - Expert Review. In mid November, Module 3 was sent to nine members of the ERT for review and evaluation. Five of the reviewers returned the Module Feedback Instrument and Module Utilization Checklist.

For each of the 32 specific criteria used in assessing specific sections of the module, there was 80% or greater consensus that no modifications were needed. In the narrative comments section, however, comments such as the following were provided as recommendations.

> Terms like 'comprehensive career preparation' or 'occupational education programs' should be modified to make reading less of a chore.

> More elaboration on the purpose of the advisory committee and how to really get it going.
>
> The guidelines and suggestions section could be less confusing and wordy.

Internal Data - Product Review. Two inservice products were included in Module 3. Twenty-four of the field test participants completed and submitted a Special Needs Resource Inventory (Inservice Experience 5), while two participants submitted an agenda and minutes indicating they had conducted a special needs advisory committee meeting.

The Product Assessment Checklist (Appendix J) was used by the director to evaluate the products submitted. The completed resource inventories were generally found to contain complete and concise resource descriptions. Generally, the inventories reflected a comprehensive listing of school resources, but were less exhaustive in listing available community resources. For the most part, the identified resources were classified in accordance with the guidelines presented in Inservice Experience 5. In several instances, however, the "Special/supportive services" resource category was frequently misinterpreted. Approximately 30% of the completed inventories listed persons or agencies in this category that should have been listed elsehwere. Another frequent misinterpretation was related to the process for developing the resource inventory. While the guidelines suggested that "teams" of teachers be involved in developing the inventory, only ten of the 24 participants submitting a completed inventory form had listed other persons as also being involved in the development of the inventory. After inspection of the completed inventories, it did not appear that additional categories were needed on the resource inventory forms.

The advisory committee meeting minutes and agenda submitted by two of the field test participants at Site A reflected a number of activities as being completed according to the guidelines in the module.

External Data - Participant Feedback. Each of the 29 field test participants completed and returned Module Feedback Instruments on Module 3. The general response to Module 3 appeared to be mixed.

Data from Part I of the Module Feedback Instrument which addressed the modifications needed in specific sections of the module, indicated that on five of the 32 review criteria, more than 24% of the participants (7 or more of the 29 respondents) felt some modifications were needed. The areas in which improvements were suggested included: (1) attainability of module goals; (2) interest-generating capability of the introduction; (3) helpfulness of suggestions in the Resource Inventory experience; (4) adequacy of forms in the Resource Inventory; and (5) helpfulness of the self-check evaluation. Specific comments were offered in response to three of these areas of concern. Several individuals noted that the resource inventory forms provided only limited space for resource descriptions, thus limiting their adequacy. Other comments appeared to suggest that several participants felt a disproportionate amount of time was required to develop a complete resource inventory, in light of the benefits they expected to receive from the product. This appeared to make it a somewhat unrealistic activity. The technical and sophisticated language used in the module appeared to limit its appeal.

The overall assessment from Part II of the Module Feedback Instrument supported the somewhat mixed reactions. The participants felt Module 3 was well organized, but found it to be somewhat wordy and rambling, and less clear and fluent than other modules. The adequacy and usefulness of the resource materials was also somewhat of a concern.

The narrative comments in response to what the participants liked most about the module cited the organization, procedures, and completed examples of the resource inventory forms as most beneficial. However, several of the comments in response to this inservice experience seemed to be framed in the future tense suggesting that once it was done, or if it were already completed, a resource inventory would be a useful reference.

A number of the comments also cited the advisory committee establishment activity as the most liked feature of Module 3. A representative sampling of the like most comments is presented below:

> Advisory committee information.
>
> I presently use an advisory committee, but by using this module I found some new, useful ideas.
>
> It (Resource Inventory) can be meaningful and helpful after you have completed it.
>
> The format was easy to follow and the examples were helpful.
>
> The information (Resource Inventory), once gathered, will be readily available for many people to use.
>
> The idea.
>
> Working with people in the community in trying to improve my program content.
>
> After completing the Resource Inventory, anyone who would have the student's folder could easily find the specific person for whatever the learning situation. An excellent instrument. Much time and thought was given to developing it.

Eighteen of the 29 participants (62%) also provided specific comments when asked what they liked least about Module 3. This percentage of participants responding to this question was somewhat higher for Module 3 than for the other modules. The comments describing what the participants liked least about the module encompassed such considerations as the time required, the content of both inservice experiences, and the technical language used.

> The listing of school and community resources.
>
> Busy work of keeping track of filing, etc. of all the forms.
>
> Trying to list all available agencies and their work.
>
> Advisory committees are not appropriate for junior high.
>
> Language tends to be more formal than I'm used to.
>
> Too much time for a class project, need to involve too many people.
>
> The involvement of other teachers is a strong point, but I dislike increasing their work load.

Specific recommendations for revision of Module 3 were provided by 13 participants. Several of the recommendations focused on making the process of developing a resource inventory more efficient. A representative sampling of these and other recommendations is provided below:

> Cut out some of the forms and recordkeeping data.
>
> Eliminate the process for developing community resources directories, unless they are not readily available.
>
> Cards should be used instead of the big forms for tabulating school and community resources.

> Most Educational Service Regions in Illinois already publish a Career Catalog listing available resources.
>
> Develop separate resource inventory forms for large and small districts.
>
> In general, I felt the written content was too lengthy. I would shorten the language. Maybe the material is too thorough.

External Data - Participant Practices and Perceptions. Prior to and following the field test, participants were asked to indicate the relative amount of time they spent performing a number of instructional practices or strategies in working with special needs learners. Of the four practices included in Module 3, the participants reported spending most of their time "Using community resources in the instructional program." The mean relative time spent on this practice by all participants increased .342 scale points from 3.690 to 4.034 on a 0-7 point scale from the pre- to post-field test assessment.

The reported mean relative time spent also increased on each of the other instructional practices included in Module 3. "Conducting a community needs survey" showed the largest increase—1.276 scale points to 2.552. "Identify and use supportive services" increased 1.034 scale points to 3.241. "Using advisory groups in developing instruction" reflected an increase of .344 points to 2.241.

Several other general differences in reported relative time spent were noted when the data were grouped by subject area, field test site, and program level. Special education teachers and coordinators reported spending considerably more time "Identifying and using supportive services" and "Using community resources" than did vocational personnel. These two instructional practices also appeared to consume more of the participants' time at Site B (where the modules were presented in a structured seminar) than at Site A.

The participants were also asked to provide responses to the question of whether or not they wished to know more about the instructional practices or strategies. For three of the four practices in Module 3, the participants appeared to want to know less about the practice following the field testing than they did prior to the field testing. The one instructional practice which the participants indicated they wished they knew more about following the field test was "Identifying and using supportive services." This practice received a mean rating of 2.966 on a 1-5 point scale where the midpoint (3) was described as "yes, a bit more." Prior to the field test, the mean rating of perceived need for this practice was 2.862.

External Data - Participant Logs. Fifteen field test participants from both field test sites provided specific comments related to Module 3 on one or more of their log forms. The log comments reflected revision suggestions for each of the inservice experiences, as well as a number of general positive reactions. One general negative reaction was also reported. A representative sampling of the comments is provided below:

> I think that the resource inventory is a good idea. Mainly because I did not realize how many different people are available to help not only special needs students, but all students in the district.

> This module makes a person more aware of the facilities he can turn to for help if needed.

> Resource Inventory was confusing at first and somewhat time consuming. In my role as a teacher/coordinator, I have already learned to use school and community resources and find most all experiences to be positive.

> The resource inventory, for us at [Site A] was so much busy work. Our school directory lists the services available, and we have a county-wide directory of available community services. If I were looking for information on what resources

> are available, I would not refer to the forms I completed for this course. Perhaps the forms might be more useful in a smaller school district which would not have the school facilities and community services we have at [Site A].

> Had very few problems with the Special Needs Resource Inventory. I found we need a better list of business/industry and labor organization resources. The inventory shows this as an area of need and a follow-up should be done by [Site A] school district personnel.

> On the community resource data cards, I did not understand the space for 'action.' I did like these cards for creating a worthwhile file system of resources and services.

> It has not been advisable in our school system to work toward creating advisory committees. However, I do feel the methods in the module are very good.

> Informal minutes from our first special needs advisory committee meeting:
>
> - It was felt that special needs kids would best profit by sticking to a single, well developed skill, rather than to balance skills reported by the industry.
> - It was felt they should accept the responsibility of all assignments given to the class as a whole.
> - It was felt that a track curriculum could be proposed in such areas as bindery, photography, or platemaking and presented to the next meeting for advisement.
> - A cooperative (industry-school) extension effort was discussed. The group thought it would be very profitable to pursue.

External Data - Teacher Portrayals. Of the five teacher portrayals developed following the field testing, three teachers made specific references to the content of Module 3. One of the vocational teacher/coordinators appeared very excited about the Special Needs Resource Inventory she had developed. "Having forms to compile and organize information such as the school and community resources I considered valuable. I found that the easy accessibility of the listings was helpful, expecially the phone numbers!"

At Site B, one of the junior high vocational teachers interviewed had experienced difficulty in getting administrative approval to use an outside speaker she had discovered while preparing the Special Needs Resource Inventory. Consequently, she commented, "My eagerness for field trips, programs, et cetera has been stymied by the administration's response." This suggests the criticality of administrative involvement in the process of inservice education if specific activities will be regulated or influenced by administrative policy decisions.

At Site A, one of the middle school special education teachers utilized the resource inventory activity to identify a number of school resources and personnel that her students would encounter in high school level programs.

> I took a tour of the Vocational Center to see what the kids would be progressing onto, and what they needed to know. I also contacted people at the high school to see what kinds of things the students were doing. It was helpful to talk to the audiologist; now I'm going to have a student tested in two weeks.

Suggested Modifications: Module 3

Since Module 3 was extensively evaluated by both field testing and the expert review process, substantial information and data base were available for considering needed modifications. As with the other modules that received extensive evaluation, cross validation of weaknesses and strengths in the module proved to be the most valid basis for formulating decision criteria. Suggested modifications in Module 3 were specified on the basis of any combination of two or more of the following documenting criteria:

25% or greater consensus among the field test participants

Supporting informal comments by the field test participants

Concurrence by one or more of the expert reviewers

Product review assessment

Table 8 on the following pages presents the suggested modifications for Module 3 based on the above stated criteria. Each suggested modification is indexed to a specific section of the module and supported by a rationale statement.

Formative Micro-Analysis: Module 4

Module 4 includes two inservice activities which provide instructional planners with processes for specifying and analyzing curriculum content appropriate for special needs learners. These activities, which are another type of input consideration in planning and implementing instruction, emphasize the occupational cluster approach to curriculum specification.

Scope of Formative Evaluation. This module was the fourth module presented at Site B, and was introduced and discussed on the fifth week of the field test. At Site A, Module 4 was available to the participants after the fourth week of the field testing. Table 9 indicates the scope of the formative evaluation activities completed on Module 4.

Validation of Competencies. Module 4 included three competencies which were rated relatively high in criticality for all groups mentioned in Competency Questionnaires I and II. When the mean criticality ratings for each of the three competencies for vocational teachers, special education teachers, counselors and coordinators were derived and ranked, they were sixth, seventh, and eighth in the ranking of the 32 initial instructional development competencies. "Identify occupations and clusters of occupations" received a mean criticality ranking of 4.323, while "Specify career-related instructional programs" and "Conduct an analysis to determine knowledge concepts, specific job skills and

Table 8

Formative Micro-Analysis Summary: Module 3

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Add an illustrative case study to depict the importance of instructional resources.	31% of the participants noted that the Introduction and Rationale section did not capture their interest.	External Participant Feedback
		A case study illustration was suggested by one expert reviewer.	Internal Expert Review
Inservice Experience 5 Developing a Special Needs Resource Inventory	Identify several sources or references where completed or partial resource listings may already exist. It may be helpful to include some examples of school services directories, locally-developed career resource directories, etc.	Seven participants (24%) mentioned that they used other types of school and community resource listings in developing their inventories.	External Participant Feedback External Participant Logs
	Clarify the definition provided for the "Special/Supportive Services" category on the Special Needs Resource Inventory form.	30% of the inventories completed by the participants listed persons or agencies in this category that should have been listed elsewhere.	Internal Product Review
	Recommend more strongly the use of index cards for cataloging school and community resources. Provide completed examples for the sample cards in the module.	Several participants indicated that the use of cards would be more efficient. Some users of the inventory form felt that there was insufficient space to list all of the resources on the two 11" x 14" sheets. Two narrative comments by the participants reflected a concern for extensive amount of work required to "fill up" the sheet. It appeared that several participants equated a completed inventory as one which "filled up" the sheet.	External Participant Feedback External Participant Logs

Table 8 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Inservice Experience 5 Developing a Special Needs Resource Inventory	Provide more writing space for the resource descriptions on the Special Needs Resource Inventory form.	31% of the participants noted this form as needing some modification and several specifically cited the limited writing space as a problem.	External Participant Feedback
Self-Evaluation	Move the self-evaluation checklists to the end of each inservice experience and include completing this evaluation as the final procedure.	28% of the participants and 20% of the Expert Review Team indicated that some modification was necessary to increase the "helpfulness" of the self-evaluation.	External Participant Feedback Internal Expert Review
General	Minimize the use of technical and sophisticated terminology throughout the module.	Two expert reviewers noted that the use of high-level language made reading difficult. It is also likely that the use of sophisticated language caused the participants to generally react to the module as wordy, rambling and less fluent than some of the other modules.	External Participant Feedback Internal Expert Review

Table 9

Scope of Formative Evaluation of Module 4

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	0.5 hours	3.0 hours	—
Number of participants completing			
Inservice Experience 7	4	13	—
Inservice Experience 8	0	5	—
Inservice Module Feedback Instruments returned	19	7	6
Module Utilization Checklists returned	—	—	4

general competencies needed for employment in a cluster" were rated at 4.250 and 4.216 respectively.

When the data were examined on each competency for each group, several observations were made. The range of mean criticality ratings for the four groups on "Identify occupations and clusters of occupations" was small and relatively high (4.429 to 4.276), indicating that this competency was equally important for teachers, counselors, and coordinators. "Specify career-related instructional programs" was viewed as most critical for special education teachers (4.448), somewhat critical for coordinators (4.276) and vocational teachers (4.207), and of lesser importance for counselors (4.067). "Conduct an analysis of occupations" was seen as relatively critical for coordinators (4.483) and vocational teachers (4.379), but somewhat less critical for special education teachers (4.000) and counselors (4.000).

Contextual Data. A document analysis of each district's One- and Five-Year Plan for Occupational Education revealed that both districts offered vocational programs in the five career clusters identified by the Division of Adult, Vocational and Technical Education of the Illinois Office of Education. However, curriculum documents or other materials were not available to suggest that local analyses of these clusters had been conducted. In fact, three of the four administrators identified the inservice priority area of "Conduct an analysis of a cluster of occupations" as important for both junior high and high school personnel on their respective staffs.

Internal Data - Pilot Review. A pilot edition of Module 4 was reviewed by ten graduate students and faculty in the Vocational and Technical Education and Special Education Departments at the University of Illinois. After personal interviews and tabulation of the data provided by the pilot reviewers on the Module Feedback Instrument, several minor editorial revisions were made. The basic format and content of both of the inservice experiences was not considered to require major revision, however.

Internal Data - Expert Review. Eleven members of the ERT received Module 4 for review and evaluation. Six of the expert reviewers returned the Module Feedback Instrument and five of these six also returned the Module Utilization Checklist.

The principal concern expressed by the expert reviewers appeared to be the length and depth of the content of Module 4. At least two of the six reviewers felt some modifications were needed in seven of the 32 specific evaluation criteria covering the seven sections of Module 4. The areas in which they indicated modification was needed were:

Length of introduction

Clarity of introduction

Appropriateness of statement of module goals

Clarity of Inservice Experience 7 (Specifying Career Clusters)

Clarity of Inservice Experience 8 (Conducting a Career Cluster Analysis)

Readability (language) of Inservice Experience 8

Adequacy of examples in Inservice Experience 8

The general evaluation of the module provided on Part II of the Module Feedback Instrument supported and expanded upon several of the criticisms. Two of the reviewers rated the module as wordy and rambling, and somewhat more formal than informal. Only two reviewers felt it clearly conveyed the content. Four reviewers rated the module as being well organized, and containing meaningful objectives and appropriate, relevant content.

When asked what they liked most about Module 4, the completed forms, the step-by-step procedure, and the resource bibliography were cited. When asked what they liked least about the module, four reviewers cited the length and difficulty involved in comprehending the information without prior experience in analyzing clusters and occupations. Another reviewer felt that there was "Minimal reference to special needs learners with specific considerations for occupational analysis for the target group."

Recommendations for improvement were offered by all but one of the reviewers. The recommendations included:

> List the clusters and the DOT occupations in each.
>
> Perhaps a diagram or flow chart would help to depict the total concept.
>
> Expand the section on utilization of existing cluster and content analyses to simplify the tasks involved.
>
> Expand the section on special considerations in analyzing occupations for special needs students.
>
> Make it shorter if at all possible.

One of the expert reviewers who obviously had prior experience with the process of occupational analysis, noted that: "The cluster and content analysis inservice experiences are, by their nature, technical and involved."

Internal Data - Product Review. Each of the two inservice experiences in Module 4 was designed to generate a product. The product from Inservice Experience 7 (Specifying Career Clusters) was a completed cluster specification form which listed the job titles at four occupational levels. These levels constituted the cluster of occupations for which the participant's program was providing career exploration or preparation experiences. Inservice Experience 8 (Conducting a Career Cluster Analysis) was designed to generate two products: an inventory (listing) of tasks performed by workers in the cluster, and a detailed instructional analysis of one or more of the tasks. It was noted in the introductory section of Module 4 that the products from these two experiences are directly related. Participants using Module 4 were to develop all three products. In other words, both inservice experiences were required and were not optional selections as they were in other modules.

Thirteen participants from Site A completed and submitted the Cluster Specification Form. Five of these individuals also finished and submitted the Task Inventory and Detailed Instructional Analysis (Inservice Experience 8). Of those eight persons who completed Inservice Experience 7 but not number 8, several indicated they were partially completed as of the conclusion of the field testing. For those participants at Site A, the independent selection site, who generally completed the modules in their numbered sequence (this represented the majority), it appeared that Inservice Experience 7 was the final product which most were able to complete in the 12 week field test period.

At Site B, only two participants submitted Inservice Experience 7, the Cluster Specification Form. Six of the other eight participants were working on both Inservice Experiences 7 and 8 and had partially completed the products at the conclusion of the field test period. However, none of these participants were prepared to submit the product for evaluation by the director.

When the submitted products were evaluated by the director using the Product Assessment Checklist (Appendix J), they were generally found to be in accordance with the guidelines for development and the completed examples provided in the module.

A total of nine criteria were used in the Product Assessment Checklist to evaluate the Cluster Specification Form. When inconsistencies or misinterpretations appeared in the Cluster Specification Forms, they tended to be in two areas: use of standardized occupational titles, and classification of occupational titles at various levels. In instances where these inconsistencies were noted, it appeared that the participants: (1) did not use a standard source (such as the Dictionary of Occupational Titles) for identifying job titles, and (2) were unable to consistently classify the job titles according to the levels of skill required.

Eight evaluative criteria were identified on the Product Assessment Checklist for Inservice Experience 8 (Conducting a Career Cluster Analysis). Of the five products submitted, two were found to be inadequate in identifying the "significant task aptitudes" on the Detailed Instructional Analysis form. One did not include any information whatsoever in this section, while another completed form identified only one general statement which did not reflect a "significant task aptitude" required to perform the identified job task. In both instances, the participants did not appear to interpret clearly the developmental guidelines for these sections of the module.

External Data - Participant Feedback. Twenty-six of the 29 field test participants completed the Module Feedback Instrument on Module 4. About half of these individuals had completed one or both of the inservice experiences prior to providing evaluative data on the instrument.

The participants at both sites felt quite strongly about the need for modification of this module in several areas. Overall, they indicated that the module was well organized, contained meaningful objectives and relevant supporting content, but it was also considered to be quite wordy and somewhat confusing. In Part I of the Module Feedback Instrument which contained 32 evaluation criteria for the specific sections of Module 4, 27% to 46% of the participants felt that some or major modification was required in 12 of the 32 areas. These areas and the percentage of participants concurring that modifications were needed are listed on the following page.

Interest-capturing ability of the introduction	46%
Clarity of module goals	35%
Appropriateness of statement of module goals	35%
Clarity of Inservice Experience 7 (Specifying Career Clusters)	27%
Comprehensiveness of Inservice Experience 7	31%
Readability (language) of Inservice Experience 7	27%
Adequacy of examples in Inservice Experience 7	27%
Adequacy of forms in Inservice Experience 7	27%
Usability of forms in Inservice Experience 7	27%
Clarity of Inservice Experience 8 (Conducting a Career Cluster Analysis)	27%
Adequacy of examples in Inservice Experience 8	38%
Helpfulness of self-evaluation	27%

When asked what they liked most about Module 4, 20 of the 26 responding participants provided comments. A few selected participants mentioned the inservice experiences, but the majority of comments were more general in nature and focused on such benefits as: a better understanding of the career cluster concept, more efficient teaching, a broader base of career guidance information for students, and increased relevancy for junior high career exploration programming. A representative sampling of the like most comments is provided below:

> The module would be very useful to a special education teacher or anyone teaching in an area outside of his preparation.
>
> I liked the Detailed Instructional Analysis. It gives you exactly what the name states and you can make it as concise as you like.

> Both inservice experiences are worthwhile. In order for a special needs learner to be guided in the right direction, it should be somewhat clear as to what career we are attempting to prepare him for.
>
> I especially liked the description of the Michigan School for the Blind and their Volkswagen mechanics program.
>
> This module did a good job of explaining career cluster concepts and I intend to use it with staff, counselors, and employers.
>
> The Dictionary of Occupational Titles was very beneficial in completing this module. I feel my greatest weakness was in the Detailed Instructional Analysis. I'll need to revise and refine them.
>
> Very useful to my subject area (electronics) and level of teaching.
>
> This was one of my favorite modules. Maybe I liked it because as a junior high teacher I could see some relevancy for me. Also, I've had some academic VOTEC background in this which was helpful. Examples were good; different colored pages were helpful in organizing.
>
> The application of this module could make for very efficient teaching.
>
> Material is very relevant to what I'm doing in class. It's usable and can easily be expanded.

Nineteen of the 26 participants also provided comments when asked to identify what they liked least about Module 4. This was the largest number of comments received on this question for any of the modules. The comments alluded to or directly touched problems related to: (1) the need for prior experience or knowledge in the area of occupational analysis; (2) the length and depth of module content; (3) the time required; and (4) inconsistent directions.

> Would take too much time to determine cluster areas for each student in class (unless special education enrollment is controlled).
>
> Gets a little too involved.
>
> Problem arose from not knowing what forms to fill out from the examples given.
>
> Almost impossible to make relevant at junior high school level, except at actual course level for all students.
>
> It might be a little detailed, but you (participant) could make it as detailed as you wanted, I suppose.
>
> Goals and objectives were not clear.
>
> I was confused throughout the reading of this module. Needed a lot more examples.
>
> The terminology is too technical and I just feel it is not feasible for teacher to do.

Several recommendations for improvement were also provided by the participants. A sampling is presented below.

> Leave as is at present, allowing each user to get as detailed or as basic as needed for their situation.
>
> If all job clusters could be prepared by 'experts,' this would be a good tool for teachers.
>
> If possible, make it a little shorter.
>
> Cover a specific trade rather than a cluster.
>
> Use simpler terminology.

External Data - Participant Practices and Perceptions. The pre- and post-field test needs assessment instruments used by the participants included three instructional practices or strategies contained in Module 4. From the pre- to post-assessment, the participants reported spending more time on two of the practices and less time on the remaining practice ("Identify occupations and clusters of occupations"). Following the field testing, the participants' mean reported time spent on "Specify career-related instructional programs" and "Conduct a cluster analysis to determine specific job requirements" increased by .828 and 1.000 points respectively on a 0-7 point scale. Prior to the field testing, the participants reported spending more time on "Identify occupations and clusters of occupations" (4.034) than on "Conduct a cluster analysis to determine specific job requirements" (2.621) and "Specify career-related instructional programs" (2.793). Following the field testing, the participants reported spending about the same amount of time on all three practices (3.724, 3.621, and 3.621 respectively).

The data indicating relative time spent on these instructional practices between vocational and special education personnel. The teacher/coordinators did, however, report spending substantially more time "Identifying occupations and clusters of occupations" than did the vocational and special education teachers.

Data indicating the perceptions of the participants regarding their need for inservice for each of the instructional practices were also collected on the pre- and post-field test needs assessment instruments. Each participant was asked to indicate, using a 5 point scale, to what extent he/she wished to know more about the instructional practice or strategy. The post-field test means were lower on two of the practices included in Module 4 ("Identify occupations and clusters of occupations" and "Conduct a cluster analysis to determine specific job requirements"), and higher for "Specify career-related instructional programs." It was noted, however, that all of the post-field test means were within a range of 3.103-3.286. This is slightly above the midpoint of the scale which was defined as "yes, a bit more" is desired to be known.

External Data - Participant Logs. Several of the participants using Module 4 included specific references to it in their logs. Twelve of the 95 logs submitted contained specific references reflecting both positive and negative reactions, as well as several suggestions for improvement for Module 4. A representative sampling of the log comments is presented below:

> I did a lot of unnecessary research to complete Inservice Experience 7, Specifying Career Clusters. It seems to me it would be much more valuable to research specific jobs rather than a whole cluster.
>
> Had a hard time getting started. At first, it seemed to be a task that would take a long time to complete (Inservice Experiences 7 and 8). If I did this for all jobs, the task would never be completed. I would like to see this information completed for all jobs and put in print.
>
> I felt that Module 4 on the clusters was too broad and could possibly be left out, or narrowed down.
>
> I enjoyed working on the career clusters. I feel it opened a lot of avenues to study various careers that the student can benefit from following up on.
>
> Working on the Career Cluster Specification form (Inservice Experience 7) was interesting. I used the Occupational Outlook Handbook and Encyclopedia of Careers and Vocational Guidance which was good for me to familiarize myself with some of the occupational descriptions again.
>
> In Module 4, Experience 8, I liked the Cluster Analysis Matrix form, but I did not completely understand how it was to be used.

> I felt I made some accomplishments in Module 4, but felt that it would be best accomplished if all tasks were broken down and written out for the student, as well as for the instructor's benefit.

> After working on these clusters, I think I can point out to Kevin many different fields and positions he might be suited for. I didn't feel the instructions were too clear, but I worked it out according to my understanding.

> The Career Cluster Analysis and writing of task statements, etc. is too involved for application with the majority of the students in this district. As they, for the most part, are doing the same as adults, i.e. exploring or shopping for occupations. When they make a determination (find placement) in their interest area, then tasks and learning may be listed as they are accomplished to provide recognition and reinforcement.

External Data - Teacher Portrayals. Four of the five teachers interviewed in the follow-up teacher portrayals provided specific comments reflecting on Module 4. Two of the teachers noted that they would have liked to have had more time to spend on this particular module.

Both of the special education teachers interviewed discussed more extensively the Cluster and Content Analysis module than did the three vocational teachers and teacher/coordinators. The participant-observer described one senior high, special education teacher's use of Module 4 as follows:

> After the specific job was chosen it was broken down into all of the tasks involved in the job. Then each task was broken down with step-by-step instructions. 'This is especially good to do for the retarded,' Janet explained . . . Janet is in the process of implementing this activity in her class. 'At present, I (Janet) plan to do this for every one of my students who is currently placed on-the-job, and make a library out of them, so when a new student starts a job we can pull out a specific job from the file.'

Another portrayal described a middle school special education teacher's use of Module 4. In both of these instances, it was apparent that these teachers had found the information in the module useful and had spent a considerable amount of time adapting the guidelines, suggestions, and forms for cluster and content analysis to fit their programs.

One of the junior high vocational teachers found that "It was easy to impelment the first modules, but the later ones which dealt with career clusters . . . were not as applicable to junior high school settings."

A final comment, made by an experienced cooperative work experience coordinator, pointed out the relevance of Module 4 in light of the current curricular emphasis in career education.

> I feel this is the way career education should be going. It is helpful in identifying common skills applicable to all occupations within a cluster. It allows you to see the general information which could be taught in all programs.

Suggested Modifications: Module 4

Module 4 was extensively evaluated by participants and the ERT, but was not widely selected for use by the field test participants. The limited field testing was due, in part, to the substantial amount of time required for completion of Module 4, and the limited time available for field testing the complete module series at Site B.

It was also noted that all of those 17 participants who did complete one or both of the inservice experiences were vocational educators. This is probably a reflection of the preservice teacher training usually given in this field on occupational analysis as a basis for curriculum specification. However, the post-field interviews (teacher portrayals) of five of the participants revealed that two special education teachers had used Module 4 and found it helpful in their teaching.

A series of suggestions for modification of Module 4 were formulated following the micro-analysis and are presented in Table 10 on the following pages.

Table 10

Formative Micro-Analysis Summary: Module 4

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Add a case study illustration to describe the instructional planning and career guidance informational benefits derivable from the Cluster and Content Analysis module. The general, theoretical discussion of the cluster concept should be condensed to a paragraph.	46% of the participants indicated the introduction did not capture their interest.	External Participant Feedback
		Several expert reviewers and participants expressed concern over the length of this module relative to the others. This introduction was twice as long as those in other modules.	External Participant Feedback Internal Expert Review
	Indicate clearly that this module, because of its basic curriculum development nature, involves considerably more time to complete.	One expert reviewer noted this characteristic of the module.	Internal Expert Review
		Several expert reviewers and participants expressed concern over the length of this module.	External Participant Logs Internal Expert Review
Module Goals	Include more descriptive information on each of the goals describing "how" the participant will attain them.	35% of the participants felt some modification was needed in the statement of the module goals in order to make them attainable.	External Participant Feedback
Inservice Experience 7 Specifying Career Clusters	Include a flow or process chart to clarify the procedure for this experience and to replace some of the narrative description.	Three participants noted in their narrative comments that they were "totally confused" in attempting to complete this experience.	External Participant Logs
		27% of the participants and 33% of the expert reviewers rated this experience as unclear.	External Participant Feedback Internal Expert Review

Table 10 (continued)

Section	Supporting Modification	Rationale	Supporting Information Source
Inservice Experience 7 Specifying Career Clusters	Modify the Cluster Specification Form to avoid confusion in classifying occupations at various levels of required skill.	Several of the Cluster Specification Forms submitted were rated low in accurate classification of occupations by level. Informal and class discussions with the participants indicated that the use of the "Data, People, Things" descriptors on the form were confusing.	Internal Product Review
	Include more examples of completed Cluster Specification Forms for different occupational cluster programs.	27% of the participants indicated that they felt the examples provided were not adequate in conveying how the form could be used in their program.	External Participant Feedback
Inservice Experience 8 Conducting a Career Cluster Analysis	Clarify which of the specific forms presented are to be completed.	27% of the participants felt that the procedures for this experience were not clear. Several also provided supporting narrative comments suggesting that this aspect of the inservice experience was confusing.	External Participant Feedback
	Include additional examples of completed Detailed Instructional Analysis forms. Examples completed in the field testing could be used.	38% of the participants and 33% of the expert reviewers indicated that the examples provided for this experience were inadequate.	External Participant Feedback Internal Expert Review
	Expand and clarify the discussion of the "significant task aptitudes" section in the Detailed Instructional Analysis.	One expert reviewer noted that this section was unclear and nonspecific as to procedure for determining the significant aptitudes. Another reviewer noted that this is one area of the module where the important differences in cluster and content analysis for the special needs learner can and should be more heavily emphasized.	Internal Expert Review
		40% of the Detailed Instructional Analyses submitted by the participants were judged to be inadequate in the identification of "significant task aptitudes."	Internal Product Review

Table 10 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Self-Evaluation	Move the self-evaluation checklist to the end of each inservice experience so that they might be used immediately by the module user to provide corrective feedback.	27% of the participants indicated the self-evaluation required modification before it could be considered "helpful."	External Participant Feedback
General	Include flow charts, diagrams, or other visual materials in both of the inservice experiences to replace the lengthy narrative whenever possible.	Numerous participants and expert reviewers were concerned about the length and wordiness of the module.	External Participant Feedback Internal Expert Review
	Simplify some of the terminology used and provide a glossary of key words used in the module along with examples.	31% of the participants and 33% of the reviewers felt the readability (language) contained in the module needed modifications. Narrative comments from both groups indicated they considered the language too technical.	External Participant Feedback Internal Expert Review
	Identify sources of information on existing task inventories, cluster and content analyses. Encourage module users to locate these and attempt to adapt them to their specific occupational program, if possible.	One reviewer noted that it is much easier for the teacher to forsee the possibility of reworking existing cluster and content analysis information than to ask them to build it from the ground up.	Internal Expert Review
	Shorten specific technical sections in the module by referring the reader to a specific reference or source instead of providing a detailed explanation within the module.	This suggestion was offered by a reviewer who shared the concern of others that the module was too lengthy to be attractive to the potential inservice user.	Internal Expert Review

These suggestions were based on the cross validation of specific needed changes from two or more of the following sources:

25% or greater consensus among the field test participants
Supporting informal comments by the field test participants
Concurrence by two or more of the expert reviewers
Product review assessment

Formative Micro-Analysis: Module 5

This module, the fifth in the series of seven, dealt specifically with the process of instructional planning. Instructional planning, as described in the module, is similar to the development of specific instructional units or lessons. The field test edition of this module included inservice experiences dealing with: (1) sequencing instruction, and (2) developing instructional modules. Of the two experiences, Inservice Experience 9 was considerably shorter and focused on considerations related to sequencing instructional units and information according to the learning needs of special students. The instructional module development experience (Inservice Experience 10) was considerably more involved. Several detailed procedures and guidelines were included; each ranged in length from one to three pages. Writing performance objectives, structuring learning activities, and selecting instructional materials were some of the activities presented in Inservice Experience 10.

Scope of Formative Evaluation. Inservice experiences contained in Module 5 were completed by participants at both field test sites. At Site A, the independent selection site, eight participants submitted a completed sequencing worksheet from Inservice Experience 9, while at Site B, none of the participants completed the sequencing experience. Inservice Experience 10, the activity involving the development of instructional modules for special needs learners, was submitted by five participants at Site A and two participants at Site B. Module 5 was also sent to 11 ERT members for review and critique. Six returned them.

At Site B, approximately four hours of direct instructional time (lecture-discussion) was devoted to Module 5, with approximately 3 1/2 hours of this time spent on Inservice Experience 10, Developing Instructional Modules.

The participants at Site A received Module 5 at the third session and had it available to review and use for a period of eight weeks. At Site B, Module 5 was initially discussed and given to the class participants at session seven, leaving four weeks for use.

Table 11 on the following page presents other summary data depicting the scope of the formative evaluation of Module 5.

Validation of Competencies. As described earlier, a modified Delphi procedure was used with the ERT to assess the criticality of the competencies which are included in the modules. Initially, ten instructional planning competencies needed by personnel working with special needs students were identified by the director from a review of several competnecy identification studies completed in the fields of vocational and special education. These ten competencies were included in a list of 32 competencies reviewed by the ERT.

A 5 point scale was used which represented the degree of criticality of successful performance of the competency to instructional planning for special needs learners. Competencies receiving a 1 were considered unimportant; those receiving a 3 were considered important; and those rated 5 were extremely critical to successful instructional planning.

The mean ratings for the ten planning competencies were relatively high in criticality ranging from 3.98 to 4.40 after the second competency questionnaire

Table 11

Scope of Formative Evaluation of Module 5

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	0.5 hours	4.0 hours	—
Number of participants completing			
Inservice Experience 9	8	0	—
Inservice Experience 10	5	2	—
Inservice Module Feedback Instruments returned	18	7	6
Module Utilization Checklists returned	—	—	6

Delphi. In the final mean ranking of the 32 competencies, the ten instructional planning competencies ranked between 3 and 23. Of the ten planning competencies, "Monitoring student progress and achievement" rated the highest (4.40). The lowest rated competency involved "Developing or adapting a format appropriate for instructional planning." On the second questionnaire, two ERT members noted that ". . . several formats for this purpose were currently available for planning instruction for special needs learners." It was also noted that the other nine competencies do, in toto, constitute the essential elements of a planning format (e.g. performance objectives, instructional strategies, etc.).

As one might expect, the successful performance of the instructional planning competencies by vocational and special education teachers was viewed as more critical than successful performance by counselors and cooperative or work study coordinators. Even though many coordinators are considered teacher/coordinators and do provide some in-school instruction, their successful performance of the instructional planning competencies was viewed as less critical to total program effectiveness. For each competency area except "Identification of basic aptitudes and competencies," the mean ratings for coordinators and counselors were generally 1.0-2.0 scale points lower than for teachers.

Each of the instructional planning competencies appeared to be equally important for both vocational and special education teachers. The largest difference in mean ratings between these two groups on the ten competencies was .207. "Designing instructional strategies" and "Identifying basic language and quantitative concepts" were two competencies reflecting the largest mean differences, and both were considered more critical for special education teachers than for vocational teachers.

Contextual Data. A major justification of need for the products generated by Module 5 comes from the Illinois Rules and Regulations Governing the Administration and Operation of Special Education. Article VI of these regulations requires the development of individual vocational plans for secondary special education students. The specific regulation reads:

> 6.03 A vocational plan indicating specific vocational objectives, the training required, service personnel required, and the length of the proposed program shall be developed for each child . . . (State of Illinois, 1974)

Prior to the initiation of the field test, one of the participants was interviewed at Site B. This individual's role was that of prevocational coordinator, and he was one of the three coordinators who had primary responsibility for the local district's compliance with this regulation. During the interview he experssed a concern that: ". . . we have not developed the written plans as called for by the state." The pre-field test interview with the special education director revealed that:

> . . . prevocational program objectives are written to describe the major purposes of the program. I assume that these objectives are supplemented in the prevocational coordinator's student files with the information and modifications necessary for each student.

At Site A, the special education administrator indicated that the secondary school staff does prepare individual programs in each program area, including the prevocational program. A copy of a typical program was obtained by the director. In reviewing the document, it was noted that a standard list of student objectives is used with columns opposite each objective for the teacher to write in instructional activities, materials used, and evaluative comments on the student's performance or progress. The special education administrator noted that the plans are submitted before the end of the sixth week of school each fall, and a progress report with revisions in the plans is submitted at the end of the first semester. However, he also noted that, "The objectives and plans are frequently sent back for rewriting. A lot of rewriting is done and certainly more inservice in this area is needed."

At Site A, the special education administrator also indicated that:

> We have asked the prevocational coordinator or special education teacher to meet with the vocational teacher to work out the specifics of the individual student plan. The coordinator or special education teacher then writes the plan, spelling out the assistance to be provided by the vocational teacher.

In response to the same question at Site B, the special education administrator indicated only that, "I strongly encourage our secondary special education staff to coordinate planning with the vocational staff."

The vocational and special education administrators in both districts indicated that in the past two years, they had not sponsored any districtwide or building level staff or inservice meeting focused on instructional planning. At Site A, however, in the past two years there have been three building level inservice sessions involving the total staffs at the high school level. One of these was devoted to cooperative instructional planning between regular class teachers (including vocational teachers) and special education staff for students who were mainstreamed.

The administrator's version of the Inservice Needs Assessment Instrument indicated that all four administrators (vocational and special education from both sites) saw an inservice priority for all teachers and coordinators at both the junior and senior high school level as being "Identification of modules of instruction appropriate for the sepcial needs learner." Other potential inservice foci which were mentioned by at least three administrators included: "Selecting or developing instructional materials," "Identifying basic language and quantitative concepts associated with vocational instruction," and "Designing a system for monitoring learner progress."

Internal Data - Pilot Review. Two versions of Module 5 were developed and reviewed during the formative evaluation. The initial, pilot edition of this module and Module 4 were written during the second development phase. Modules 1, 2, and 3 had been prepared previously and pilot tested in the intital developmental phase. The pilot review comments from these modules served to specify a consistent and second-generation format around which to design Modules 4, 5, 6, and 7.

The pilot edition of Module 5 was reviewed by a total of six graduate students and faculty members from the Departments of Special Education and Vocational and Technical Education. Major changes in the basic content and format were not recommended by the pilot edition reviewers. The pilot review data were collected by the director through face-to-face discussions, written comments on the module, and in three cases, by an early version of the Module Feedback Instrument. The modifications listed in Table 12 were suggested and adopted following analysis of the pilot review data.

Internal Data - Expert Review. Eleven members of the ERT were asked to review and critique the field test edition of Module 5. Of the 11 members who received Module 5 plus one other module to review, six returned the Module Feedback Instrument and Module Utilization Checklist on this module.

The reviews provided by the ERT on the Module Feedback Instrument for Module 5 were in-depth and quite detailed. While the majority of the reviewers felt that each of the module elements (specific sections) was acceptable and should be retained in its present form, for 11 of the 32 feedback criteria, two of the six reviewers felt that some modification was needed. It was noted that the sections identified as needing modification closely paralleled those suggested for modification by the Site A participants where the modules were used independently.

Table 12

Formative Modifications in Module 5 from Pilot Review

Section	Modification	Rationale
Inservice Experience 9 Sequencing Instruction	Addition of a completed example of the Instructional Sequencing Worksheet.	Helps clarify procedures/guidelines for use and provides a concrete application.
Inservice Experience 10 Developing Instructional Modules	Revision of the suggested instructional module format:	
	"Developmental Competencies" changed to "Basic Skills/Aptitudes."	The special education reviewers felt that special education teachers identify more with this terminology. They can see a need to teach basic skills, as they relate to occupational instruction.
	"Essential Concepts" changed to "Basic Skills/Concept Content."	This provides a more direct tie-in to the "Basic Skills/Aptitudes" section. Offers stronger justification for first identifying the student's weaknesses relative to basic skills/aptitudes.
	The "Basic Skill/Concept Content" section was moved to the front side of the module format, and replaced "Instructional Strategies and Materials."	This change placed all of the instructional content specification on one side of the single page format, enabling it to be more closely coordinated. Instructional processes (methods and materials) were then totally on the back side, making for a more efficient organization for instructional planning.
	"Instructional Strategies" and "Supportive Teaching Strategy" were reorganized into "Instructional Activities" with separate sections for occupational instruction and special education.	By placing these together, the teachers in both areas can more readily coordinate their instructional activities and avoid duplication of effort. It provides a wholistic conceptualization of the team teaching effort.
	A progress monitoring column was added to the format for the purpose of checking progress in learning the basic concepts/aptitudes.	This gives both the occupational and special education teachers a specific evaluation responsibility, and fosters communication regarding the learner's progress.

Table 12 (continued)

Section	Modification	Rationale
Inservice Experience 10 Developing Instructional Modules	Several completed examples of instructional modules were added and presented earlier in the suggestions and guidelines section.	This provides concrete, usable examples for coordinators, occupational teachers and special education teachers at both the senior and junior high school level. Early presentation of completed instructional modules lets the reader see a finished product at the outset instead of having to build one by reading several pages of outlined procedure before seeing it.

None of the reviewers felt that major modifications were needed on any of the 32 criteria presented in Part I of the Module Feedback Instrument. The general evaluation section of the Module Feedback Instrument (Part II) did not indicate a need for modification in organization, language, content or use of examples. The estimates of time teachers would need to complete this module, as estimated by the ERT in Part II, were similar to the estimates given by the field test participants at both sites, i.e. 6-10 hours.

When responding to the question of what they liked the most about Module 5, such statements as the following were provided:

> It zeros in on essentials and provides some excellent content information.
>
> Brief and concise, yet you (the user) can get all the important facts down and come away with a way of teaching it. I'm going to use the forms.
>
> The organization of the module itself emphasizes the importance of organized instructional planning in teaching handicapped students.

The principal comment regarding what was least liked about the module was: "It's highly concentrated and 'rich' for a naive reader. It tends to oversimplify through its condensed, concentrated approach." The other three least-liked comments were in regard to specific sections of form 4.11, the instructional module format.

A number of specific recommendations were offered by the reviewers also. The specific suggestions include:

> Incorporate more examples via the use of case studies or hypothetical students.
>
> Clarify the performance directions for Inservice Experience 10.

> Incorporate some 'doing' activities after each section of the lengthy Inservice Experience 10.
>
> Reconsider the supposedly optional relationships of Inservice Experiences 9 and 10—they are really related, aren't they?

Internal Data - Product Review. Module 5 contained two inservice experiences each designed to produce an instructional planning product. These products were part of a comprehensive, written educational plan which was developed through the use of the total module series.

The two products in Module 5 are an Instructional Sequencing Form (Inservice Experience 9), and an Instructional Module Form (Inservice Experience 10). As noted earlier in Table 11, during the field testing eight field test participants submitted a completed Sequencing Form for review and seven submitted a completed Instructional Module. As these forms were submitted, they were reviewed and evaluated by the director. The criteria and scaling for evaluation of the completed products for all modules is presented in the Product Assessment Checklist (Appendix J).

The completed Instructional Sequencing Forms were found to be quite satisfactory. The directions were followed and in most instances, all information requested on the form was provided. In all instances, at least two alternative sequences for presenting the instructional content were clearly identified. Since this was the basic purpose of the activity, the form was judged to be satisfactory.

The guidelines and suggestions for Inservice Experience 10 suggested that a team of vocational and special educators should be involved cooperatively in preparing modules of instruction. Of the seven persons submitting a completed instructional module, four appeared to be involved in a team effort. It is possible that the other three persons could have teamed with someone not enrolled in the field test course, but there were no clear indications that this occurred. Those instructional modules completed and submitted were found to be excellent. Here again, for the most part, all seven areas of the module form were appropriately interpreted and accurately completed. The one area on the form which appeared to be interpreted somewhat inconsistently was the "Basic Skills/Aptitudes" section. While several types of basic skills/aptitudes were mentioned and described in the suggestions and guidelines, they were identified in categories somewhat unfamiliar to vocational educators (e.g. perceptual-motor skills). Accurate interpretation of these may require communication with a special education person which some of the participants apparently did not have.

Also, some of the information provided in the "Basic Skills/Aptitudes" column was related directly to prerequisite occupational instruction (e.g. drafting knowledge), among other things. This suggests an expansion of the basic skill/aptitude categories to include occupational aptitudes such as spatial perception and visualization.

Overall, the example products from Module 5 that were prepared and submitted by the field test course participants were highly consistent with the guidelines, suggestions and examples provided in the module.

External Data - Participant Feedback. A total of 25 Module Feedback Instruments were received from the field test participants. Eighteen of 19 participants at Site A returned the instrument, while seven of ten participants at Site B submitted a Module Feedback Instrument. The participants were directed to complete a feedback instrument upon completing one or both of the inservice experiences in Module 5. If they had not completed an inservice experience during the field test, they were directed to read and evaluate the module during the last week of the field test period. Since only 15 completed products were submitted from Module 5 by 12 field test participants, a substantial number of participant reviews must have been based on reading the module. However, it is also known to the director that several products from Module 5 were partially completed at the end of the field test period.

As noted earlier, Part I of the Module Feedback Instrument focused on each of the specific sections of the module. At least two of 25 field test participants felt that "some" modification was required on all of the 32 module evaluation criteria. On six of the criteria, at least one participant felt major modification was needed.

Almost all of the suggestions for changes came from the participants at Site A where the modules were used selectively, while few suggestions for revision were offered by the Site B participants. On the average, each participant at Site A rated 8.66 of the 32 criteria as needing some or major modification. At Site B where approximately four hours of direct instructional time was provided on the content of Module 5, the participants on the average, rated only 1.14 of the 32 criteria as needing some, but not major, modification.

While there was a total of 164 suggested modification responses reported on the feedback instruments, only 16 comments suggesting specific modification were provided by the respondents. Only nine of the 16 comments provided offered clarification of the problem or specific suggestions for improvement. The other seven contained positive reinforcement for retaining the section in its present form.

Part II of the Module Feedback Instrument contained information regarding the general format and content of Module 5. The participants from both sites agreed on several of the general evaluative criteria and differed on others. Mean scores were computed on each criterion by site, and differences between the means of more than .5 were noted on two criteria: "too detailed - too superficial" and "too informal - too formal." The participants at Site B where Module 5 was used in a seminar, structured discussion type of presentation viewed the module as being more technical and formal than the participants at Site A.

The estimates of time needed to complete Module 5 were similar at both sites and similar to those provided by the ERT. The estimates for completion time ranged from 2 to 20 hours per student with the largest number of estimates falling in the range of 6-10 hours.

In response to the Module Feedback Instrument question regarding the most liked features of Module 5, a mixture of comments were provided. Those listed below are a representative sampling:

> Something practical and usable.
>
> Organization was good.
>
> Form 4.21 (the instructional module) is one of the most usable forms.
>
> It definitely helps you organize your teaching.
>
> Very pragmatic and complete.
>
> It would be very effective for the student if the teacher had time to individualize for each.
>
> I liked the sequencing—I didn't realize there were that many different ways to sequence things.
>
> Inservice Experience 10 [Instructional Module Development] was laid out step-by-step and could easily be followed.
>
> The total picture of a task on one page looks good [Instructional Module].

> Your form [Instructional Module] is more meaningful and useful than the one we now have.

While a total of 19 like-most comments were provided by the participants, 13 comments indicating what the participants liked the least about the module were also provided. The following is a representative sampling of the like-least comments regarding Module 5.

> Teacher probably won't have enough time.
>
> Time!
>
> It required time we don't have.
>
> Detail of Inservice Experience 10.
>
> Lengthy, but not for material and intended use.
>
> Don't feel sequencing is too important.
>
> Trouble understanding the example in Inservice Experience 9.
>
> The formalness of much of task stuff.

External Data - Participant Practices and Perceptions. Prior to and at the conclusion of the field testing, an Inservice Needs Assessment Instrument was administered to each participant. The pre-field test administration of the instrument was an attempt to determine to what extent the participants felt they were already performing the identified competencies.

Eight instructional planning practices were listed on the pre-field test instrument. The range of means on relative time spent performing these instructional practices or strategies was from 2.517 to 4.069, a spread of 1.552 points on the 7 point scale. As a group the participants reported spending the greatest amount of their instructional planning time (4.069) on the organizational task of "Developing or adapting a format appropriate for instructional planning." Another practice which rated high in terms of relative time spent performing (3.793) was "Developing student performance objectives for instructional modules or units." The mean ratings of the remaining six practices related to instructional planning all were between 2.517 and 3.621.

"Designing instructional activities or methods appropriate for the special needs learners" was perceived by the participants on the pre-field test instrument as the most important area for inservice. The participants' preferences regarding which instructional practices and strategies they "wished to know more about" were reported on a 5 point scale. The scale ranged from "no" which was given a value of 1 to "yes, much more" which carried a value of 5. The midpoint of the scale (3) was defined by the descriptor as "yes, a bit more."

For the pre-field test instrument, the mean scores of the eight instructional planning practices ranged from 3.11 ("Developing or adapting an appropriate instructional planning format") to 4.33 ("Designing instructional activities and methods"). The next most important inservice need areas were "Developing student performance objectives" (3.79) and "Designing a system for monitoring student progress" (3.71).

The post-field test administration of an identical Inservice Needs Assessment Instrument occurred at the final class sessions at both field test sites. For both groups, this was twelve weeks after they had completed the pre-workshop instruments. The reported relative amount of time spent using the eight instructional planning practices increased for seven of the eight practices. Interestingly, the only practice on which participants reported spending less time was "Developing or adapting an appropriate planning format." The largest increase (1.931 scale points) was reflected in "Designing instructional activities and methods" where the mean relative time spent increased to 4.621 on the post-measure from 2.690 on the pre-measure. Other instructional practices which reflected mean increases in relative time spent performing of more than one point were: "Selecting or developing instructional materials" (1.621), "Planning appropriate sequences of instruction and quantitative concepts" (1.413), and "Identifying basic language" (1.173).

As a group, the 29 field test participants who completed the post-field test instrument rated their interest in knowing more about eight instructional planning practices lower than they had on the pre-field test instrument. On the 5 point scale, mean ratings for the eight practices ranged from 2.60 to 3.39. Since the inservice experiences provided in Module 5 were all relatively close to the midpoint on the scale (3), which carries the descriptor "yes, a bit more", it appeared that the participants felt there was still something more to be learned with regard to instructional planning. This indication was common to other modules as well, which may suggest that sufficient time was not permitted during the field test for the participants to become fully acquainted with all of the modules. On the post-field test instrument, "Designing a progress monitoring system" replaced "Designing instructional appropriate activities" (3.39) as the most important area of perceived need for further inservice.

External Data - Participant Logs. Another source of specific formative evaluation feedback for Module 5 was the participant logs. The 29 field test participants at both sites were required to submit a log of their activities every three weeks for the 12 week field test period. Generally, four logs were submitted by each participant. The format for the log, along with the examples of "good" and "bad" completed log forms which were presented to the participants at the initial sessions, are included in Appendix O.

Although most of the logs contain general evaluative comments, a number of specific comments and suggestions were offered regarding Module 5:

> I enjoyed doing the sequencing experience because it helped me see some specific ways of sequencing I had never thought about. I did have difficulty sequencing the way some of the classifications were set up, but this might be the fault of my task inventory rather than a lack of explanation.

> The sequencing experience needs more case descriptions to support the value of alternative sequencing.

> Module 5 has been a considerable help to aiding and adding to the efficiency and organization of my classroom instruction.

> Inservice Experience 10 appears to be too time consuming. I spent several evenings on this one. I also wasn't sure you wanted 1 or 3 modules developed.

> In looking over Module 5, I gave some personal thought and analysis to the points given in form 4.25 (a list of alternative instructional methods) and decided I'm using too much 'lecture.' I'm going to incorporate more: problem solving, individual conferences with diagnosis, comparative analysis, and seminar/role playing.

External Data - Teacher Portrayals. Approximately two months after completion of the field testing, five teachers were informally interviewed by the participant-observer who had also attended several of the class sessions. The interviews were designed to be unstructured and intended to portray how the field test participants felt about the modules, to what extent they had found them useful, and how they were currently being used. Here again, much of the information contained in the portrayals was general in nature and did not reflect specific evaluative comments on Module 5.

However, one of the teacher portrayals did report a specific, functional benefit of Inservice Experience 10 in Module 5.

> Fran (C.W.T. Coordinator) is preparing a paycheck analysis module for second semester when Michelle (a student) enters C.W.T. from the Educable Mentally Handicapped program. By planning ahead, Sandy (the E.M.H. teacher) can teach the preliminary skills to Michelle, so that she will be prepared by the unit, e.g. vocabulary skills, basic math skills, etc. Since the students needs are known ahead of time to Fran, she is already attempting to locate a training station for Michelle in the community.

The utilization of Inservice Experience 10 in an inservice approach such as an extramural, off campus course, may be helpful in formulating longer-range, individual learner planning efforts. This approach provides the pre-planning and discussion time necessary to insure the learner's successful transition into the vocational teacher's class. It is especially critical in instances where the teacher isn't fully convinced of the need to serve special learners or of the teacher's ability to work with special needs learners. As pointed out in the portrayal, focusing on planning and scheduling for upcoming semesters can also be beneficial in the ciritcal transition from school to community-based work experience stations.

Suggested Modifications: Module 5

The foregoing discussion suggests a number of modifications for the field test edition of this module. In addition to minor editorial and classification suggestions, the eight specific modifications presented in Table 13 are offered. Each suggested modification is referenced to the specific section of the module, and is supported by a brief rationale statement and an indication of the primary information sources which provided documentation supporting the suggested modification.

Table 13

Formative Micro-Analysis Summary: Module 5

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Include an illustration or example exemplifying the importance of instructional planning.	Approximately 66% of the field test participants at Site A and 66% of the expert reviewers indicated some modification is needed, and suggested incorporation of an example.	External Participant Feedback Internal Expert Review
	Emphasize in the introduction and in both experiences the potential savings of time and effort provided by team instructional planning for special needs learners.	Several field test participants expressed a concern for lack of time to do individual planning.	External Participant Logs External Teacher Portrayals
Description of Inservice Experiences	Reverse the order in which the two inservice experiences are presented in the module.	The sequencing experience places more emphasis on the sequencing of modules once they have been identified. Thus, it should follow rather than precede the module development experience.	Internal Expert Review
	Add more specific directions to clarify the relationship between the two inservice experiences in Module 5 and experiences in other modules.	It was pointed out that the directions in the "participant response" section imply that both experiences are optional, when actually completion of one serves as a basis for the other.	Internal Expert Review Internal Product Review
Inservice Experience 9 Sequencing Instruction	Add more illustrations and applied examples of the different types of sequencing.	This will help clarify and distinguish between the alternative types of instructional sequencing.	External Participant Logs Internal Expert Review
Inservice Experience 10 Developing Instructional Modules	Describe in greater detail how the progress monitoring system presented in Inservice Experience 10 relates to the assessment activities in Modules 1 and 7.	Field test participants indicated an interest in knowing more about the progress monitoring system on the post field test needs assessment. Monitoring student progress was viewed as the most critical instructional planning activity by the expert reviewers.	Competency Questionnaire External Participant Practices and Perceptions Internal Expert Review

Table 13 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Inservice Experience 10	Expand discussion of Basic Skills/Aptitudes section of instructional module format.	It was noted during field testing that the basic skill categories do not include occupational aptitudes. Occupationally-related basic skills were commonly listed on the modules submitted.	External Participant Logs Internal Product Review
	Add some performance activities after each section of this experience.	The experience of developing an instructional module is more readily understood and easily digested if it is broken up for the user. After a discussion of each section of the module, the user should be required to apply what has been read by developing (writing) a section of his/her own module.	Internal Expert Review External Participant Logs

During the data analysis for this module, a series of decision criteria were formulated to guide the decision making relative to identifying modifications needed in the module. Specific criteria, which were somewhat different for each module, were based on such variables as the scope of the field testing completed on the module, the repeated mention of specific concerns in narrative responses, the identification of specific concerns from several information sources and the number of expert reviews received. Since the ERT was composed of experienced special needs teachers and teacher educators from a variety of backgrounds and experiences in both vocational and special education, it was felt that a consensus of 20% to 30% of this group was sufficient to warrant suggested modifications. A somewhat higher range of consensus (25% to 40%) was generally considered necessary when considering the responses of the field test participants. A higher degree of consensus was felt to be necessary for this latter group because of: (1) the limited involvement of special education personnel (20.6% of the field test participants were from this field); (2) the limited previous contact with special needs learners reported by many of the participants; (3) the limited teaching experience of a number of the participants; and (4) the tendency of the participants to react critically without providing adequate information or rationale supporting their criticism.

Formative Micro-Analysis: Module 6

Module 6 includes three inservice activities, each dealing with the processes and considerations essential for implementing instruction for special needs learners. The activities, all of which generally occur sometime after the planning of an in-school instructional program for the special needs learner, include: (1) analyzing and selecting instructional materials; (2) providing reinforcement and feedback; and (3) planning and coordinating work experiences.

Scope of Formative Evaluation. Module 6 was presented and/or initiated later during the field testing than any of the preceding modules. Module 6 was available to participants at Site A, the independent selection site, for the last five weeks of the 12 week field test period. As shown in Table 14 a total of 12 Site A participants selected, completed and submitted inservice products from Module 6. These were received by the director during the last two weeks, and were the final inservice products received.

At Site B, Module 6 was presented and discussed in class on the tenth week, two weeks prior to the conclusion of the field test. Although this module was reviewed by all ten of the Site B participants and feedback instruments were returned, no inservice products were submitted.

Compared to Modules 1 through 5, the utilization of Module 6 was limited. This was due, in part, to the fact that it was only available for field testing for the last five weeks. The limited level of utilization was also attributable to the tendency of the participants at Site A to select and complete the modules in their numbered sequence, even though they were encouraged by the director on several occasions to select modules and inservice experiences specific to their perceived needs. This tendency to "work through" the modules in a linear fashion was evidenced by virtually all of the participants at Site A. At Site B, the modules were presented and discussed in their original numbered sequence.

Validation of Competencies. A total of ten competencies from Competency Questionnaires I and II were considered initially for inclusion in Module 6. One of these, "Selecting and developing instructional materials," was also included in Module 5. In Module 6, however, this competency was reflected in an inservice experience dealing with analyzing or evaluating instructional materials.

Table 14

Scope of Formative Evaluation of Module 6

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	0.5 hours	1.5 hours	—
Number of participants completing			
Inservice Experience 11	7	0	—
Inservice Experience 12	5	0	—
Inservice Experience 13	0	0	—
Inservice Module Feedback Instruments returned	17	10	3
Module Utilization Checklists returned	—	—	3

Several of the implementing competencies were rated as being critical to successful programming for special needs learners by the ERT. The mean ratings of five of the competencies listed in Table 15 on the following page were all between 4.0 and 5.0 on a degree of criticality scale where 5 was the top of the scale and carried the descriptor "extremely critical." Also, these five competencies ranked between one and 17 in the final mean ranking of the 32 competencies which is an indication of the relative importance of Module 6 within the series of seven modules.

The remaining competencies included in Module 6 appeared to be highly role specific, and as a result rated quite low overall when the ERT was asked to rate their criticality for all four groups (vocational teachers, special education teachers, counselors, and cooperative/work-study coordinators). "Planning and coordinating work experiences" and "Obtaining work permits" were ranked 31st and 29th respectively in the final mean ranking across all groups for the 32 competencies included in all modules. Not surprisingly, however, the mean criticality ratings for coordinators were extremely high, 4.931 and 4.793 respectively. Similarly, "Using laboratory-based, hands-on instruction" was ranked 30th overall, but received criticality ratings of 4.593 for vocational teachers and 4.357 for special education teachers. This strongly suggests that selected inservice experiences in Module 6 were viewed as highly appropriate for professionals in special roles, e.g. coordinators or teachers, but not for all professionals.

"Structuring a filing system for records and report forms" received consistently low ratings on both Questionnaires I and II. In the final mean ranking, it was 26th in the total ranking of 32 competencies.

Those competencies which focused on instructional techniques, on providing feedback, and on managing the learning environment were generally rated as

Table 15

Module 6 Competencies Receiving High Criticality Ratings

Competency	Mean Criticality Rating	Final Ranking
Provide reinforcement and feedback for learning	4.629	1
Utilize instructional techniques that individualize instruction	4.207	9
Utilize small group instructional techniques	4.200	10
Select or develop instructional materials appropriate for different special needs learners	4.147	13
Manage and adjust as needed, equipment and conditions in the learning environment	4.112	17

being equally important for both vocational and special education personnel. The largest mean difference between these two groups on these seven competencies was 0.250 on a scale of 1.00 to 5.00. In two instances ("Providing feedback" and "Managing the learning environment"), the competencies were rated as being equal in terms of criticality for successful performance by vocational and special education teachers.

Contextual Data. Pre-field test interviews with the local directors of vocational and special education at both sites and an analysis of LEA documents revealed little or nothing of major significance regarding the processes in Module 6. The teacher activities proposed in Module 6 (e.g. analyzing instructional materials) were activities that were supported by all of the administrators and were in accord with district policy and current local programs for special needs learners.

The administrators' inservice assessment questionnaires revealed that, in both districts, the administrators felt that instructional personnel should be more concerned with "Providing reinforcement and feedback" for special needs learners. "Managing and adjusting the learning environment" was viewed as an inservice priority area for teachers at Site A. At Site B, no other clearly discernible inservice needs were identified by the local directors.

Internal Data - Pilot Review. Module 6 was written during the second developmental phase of the project, which began after the initial field testing of Modules 1 through 5 had already begun. Based on the pilot reviews of the earlier modules and the initial positive acceptance of the modules during the first weeks of field testing, a pilot review of Modules 6 and 7 was not considered necessary.

Internal Data - Expert Review. Seven members of the ERT were asked to review and critique the field test edition of Module 6 and one other module. After one telephone follow-up attempt, a total of three reviews were submitted.

Once again, the reviews provided by the ERT were quite detailed and offered several suggestions for improvement, most of which were minor clarifying and editorial suggestions. A concern expressed by two of the reviewers focused on the appropriateness and feasibility of including Inservice Experience 13 (Planning and Coordinating Work Experience) with the other implementing activities. "Because this is usually a designated responsibility of coordinators and teacher/coordinators and not classroom personnel; perhaps this should be a separate module," was the comment offered by one of the expert reviewers.

Other reactions and suggestions were similar to those provided by the field test participants. Two of the three reviewers suggested some modification was needed in the following areas: (1) Introduction is weak in generating or capturing interest; (2) Suggestions and guidelines for Inservice Experience 12 (Providing Reinforcement and Feedback) should be more practical in nature; and (3) Format of the self-check evaluation for this module needs to be reexamined.

Internal Data - Product Review. As noted earlier, a total of 12 products or completed activities were submitted from Module 6. While the first two inservice experiences (11 and 12) were designed to generate specific products (e.g. a completed Contingency Contracting Form for behavioral management), Inservice Experience 13 (Planning and Coordinating Work Experiences) did not provide for the development of a specific product. Several "suggested" forms were included in this experience with the suggestion that the participant "pick and choose," rather than develop a specific form.

The Checklist Analysis of Instructional Materials (Inservice Experience 11) was completed by seven participants at Site A. All of the completed analyses were judged to be well done. All of the information requested on the checklist analysis was provided and there appeared to be no problems with interpretation of items. It was noted by one teacher that, depending upon the type of instructional material being analyzed, a "not desirable" column may be desirable or necessary for some of the analysis criteria.

Two teachers also used the FOG reading index part of the checklist in a manner not directly suggested in the procedures. Instead of taking three samples from a single document, they took samples from a series of instructional materials they use with special needs learners. Their purpose was to determine the consistency in readability level of the different publications in the series.

Two of the teachers who had had some previous experience in assessing the readability of their materials with other formulas expressed a feeling that the FOG Index "measured high." As Gunning notes, the FOG is considered generally appropriate for secondary level materials (for grades 7-12). Thus, it may be somewhat imprecise in measuring the low level materials often appropriate for special needs learners. A search was made to identify a more appropriate formula but none was found. It was suggested by one participant that the impreciseness of the FOG in measuring low level materials should have been specifically noted in the procedures for this activity.

A total of six completed Contingency Contracting Forms was submitted by five participants at Site A. Again, the forms were found generally to be complete and detailed in presentation. All of the products closely followed the example provided in Inservice Experience 12.

One participant stated target performances in several classes (social studies, special education and shop) which were to be met by the learner if he wanted to join the "working together" club in the special education class. While this participant found the cooperative involvement of other teachers to be helpful here, two participants from the area vocational center at Site A did not. Their completed forms reflected target performances and rewards to be provided on an in-class basis. In both instances, the statement of target behaviors by these participants tended to be general behavioral descriptions rather than specific, measurable behaviors.

One participant developed a Contingency Contract Form with the stated target performance being identical to the terminal instructional module performance he developed in Module 5 on instructional planning. This occurrence suggested that the relationship between Modules 5 and 6 is discernible to participants who are charged with selecting their inservice experiences independently, and that this part of the implicit instructional development model is logical and implementable.

As noted earlier, no products were submitted for Inservice Experience 13, Planning and Coordinating Work Experiences. This was due, in part, to some specific field testing situations and constraints: (1) the training plans which can be developed from this experience had been prepared earlier in the semester by the teacher/coordinators participating in the field testing; (2) since the products outlined in this experience (training agreements and plans) are required by state and federal educational program guidelines, the format and content of these documents are clearly spelled out and established; and (3) since a majority of the 29 field test participants (19) do not have coordination responsibilities, they saw no need to complete this experience.

Several of the 10 teacher/coordinators did provide the director with copies of the forms they used in planning and coordinating work experiences, and suggested that these could be incorporated in Inservice Experience 13.

External Data - Participant Feedback. A total of 27 Module Feedback Instruments were received from the field test participants at both sites. The reaction to Module 6 was generally favorable with only limited suggestions for change. Because less than 25% of the participants at Site A actually submitted products from Module 6, and because the majority of participants at both sites based their evaluations on reviewing or reading the module, there were few major differences in the response patterns between Site A and Site B. The 27 respondents from both sites generally agreed that some modifications were needed in three areas: (1) improving the interest-generating appeal of the introduction (33% consensus); (2) describing the attainability of module goals (33% consensus); and (3) increasing the practicality of suggestions and guidelines for Inservice Experience 11, Analyzing Instructional Materials (33% consensus). Approximately 25% of the participants also felt that some modification in the format of the self-check evaluation at the end of the module was warranted. However, comments were not provided to suggest the kind of modification needed. No major modifications were suggested by the participants on any of the individual sections of the module.

The general evaluation of the module was also favorable. The module was generally considered to be brief, concise, well organized, clear, containing meaningful objectives with supporting content, and containing adequate and useful resource materials.

When the participants were asked to reflect on what the liked most about Module 6, favorable comments from both sites mentioned each of the inservice experiences with approximately equal frequency. A representative sampling of the like-most comments is provided below:

> I liked the evaluation of the instructional materials. This seemed really relevant to my teaching, not only for special needs students, but for all students.
>
> All teachers really need a system for evaluating their instructional material.

> Form 5.21 (Contingency Contracting Form) is very useful.
>
> Contracting form is a good idea when it is in written form.
>
> Easily adaptable to cooperative programs and very informative.
>
> Module as a whole is well organized and would be helpful to VCE (vocational cooperative education) and CWT (cooperative work training).

Eight participants also offered constructive and reflective comments regarding what they liked the least about the module. Here again, the comments included each of the three inservice experiences. A representative sampling of the like-least comments are presented below:

> I'm not impressed with the contract teaching concept (Inservice Experience 12). It has not worked for me in the past and this experience was no exception.
>
> You might discourage some cooperating employers if you pin them down to specifics (Inservice Experience 13).
>
> I don't see the need to use the readability form. These are often inaccurate. If the motivation to read is there, it can get most kids through.
>
> Inservice Experience 12 is too simplistic—what about the kids who can't handle 'what's fair for him is fair for me?'

Several participants also offered specific recommendations for modification. Several of the recommendations focussed on the cooperative work experience section of the module.

> Inservice Experience 12 should be separate from the rest of Module 6.

> Add a labor laws section and distinguish between the feasibility of work experience programs at the junior and senior high school level.

> People who are not acquainted with work programs may find some of the forms and terms too technical.

Regarding Inservice Experience 12, one participant also recommended that: "Grades and praise by teachers, employers, peers and parents are the best motivators and feedback should be geared to these as well."

External Data - Participant Practices and Perceptions. The results from the identical pre- and post-field test needs assessment instruments reflected an increase, following the field testing, of the relative amount of time the participants reported spending on all ten of the instructional practices presented in Module 6. The mean relative time spent on the instructional practices included in Module 6 increased by as much as 1.620 increments on the 7 point relative time spent scale, and by as little as .070. The practices which reflected increases of more than 1.000 in the mean amount of relative time spent performing included: "Analyzing instructional materials" (1.621), "Utilizing small group instructional techniques" (1.310), and "Using individualized instruction techniques" (1.138). There were no decreases in reports of time spent on any of the practices.

On the post-field test needs assessment, the participants reported spending the greatest amount of time on: "Utilizing small group instruction" (5.207), "Using individualized instructional techniques" (4.931), and "Providing reinforcement and feedback" (4.931). Four other instructional practices were reported between 4.483 and 4.103. "Maintaining a filing system for records and reports" received the lowest mean relative time spent rating from the participants (3.759).

Two instructional practices included in Module 6 were reported as being performed almost exclusively by cooperative work-study personnel on both the pre- and post-field test needs assessment. On the relative time spent scale, "planning and coordinating work experiences" and "Obtaining work permits" were reported as performed at a 6.50-7.00 level by the ten teacher/coordinators.

The participants generally felt they were at least minimally competent based on their indications that they generally wished to know only "a bit more" (as opposed to "much more") about most of the instructional practices in Module 6. The "a bit more" descriptor was the midpoint (3) on a 5 point scale on which the participants were to indicate whether or not they desired to know more about the instructional practice. The scale ranged from 1 which represented "no more" to 5 which represented "much more." All of the pre- and post-field test means on the ten instructional practices in Module 6 were between 2.880 and 3.923. Prior to the field testing, "Selecting or developing instructional materials" was rated the highest at 3.923. From pre- tp post-test, seven of the means decreased while three increased. The practices about which the participants wished to know more after the field testing included: "Obtaining work permits," "Planning and coordinating work experiences," and "Using laboratory-based hands-on instruction." The concern for wanting to know more about work permits and work experience coordination was strongly expressed at Site B where a group of four junior high teachers ahd encountered difficulty with secting up community-based career exploration stations for two special needs learners.

The instructional practices reflecting the largest mean decreases from pre to post on the continued interest scale included "Analyzing instructional materials" and "Using individualized instruction techniques." These mean decreases were .544 and .466 respectively.

External Data - Participant Logs. Several reflective and evaluative comments regarding Module 6 were found in the participant logs submitted during the latter stages of the field testing. One participant felt comfortable and familiar with the content of Module 6: ". . . after reading and looking it over I feel I'm on top of this approach because it's similar to that currently used in the district's co-op and prevocational programs."

Another participant reflected on how one of the activities in Module 6 helped to foster teacher cooperation. "I had Ruth (a reading specialist from another building) help me rate the reading level of our material. She also helped me organize and give a reading test to my students."

Concern regarding the validity of the readability formula presented in Inservice Experience 11 was expressed by two participants. "I tried it several times on some very low level materials and came up with consistently higher reading levels than listed by the publisher." "The materials I used seemed simple enough to me, but . . . I wondered about the accuracy and validity of this instrument." However, another participant indicated that ". . . our current text material is close to the reading level listed by the publisher according to the FOG formula."

External Data - Teacher Portrayals. The externally-authored teacher portrayals did not contain any participant comments or evaluative information pertinent to Module 6. This was considered to be due primarily to the fact that Module 6 was only available for field testing for a five week period.

Suggested Modifications: Module 6

The purpose of this final section of the micro-analysis is to formulate a series of specific recommendations for revision of Module 6 based on the formative evaluation data presented in the foregoing pages. The director found it difficult to synthesize the reactions and derive specific recommendations, primarily because of the limited field testing of this module. It was felt that in this instance, the analysis of products submitted (product review) would be relied upon more heavily than in previous modules because the products reflect the efforts of those field test participants who had had a deeper involvement with the materials. The data from other sources had to be considered as having limited validity because of the limited period of time the module was available for review and use during the field test. Also, a number of inconsistencies appeared in the feedback data from participants, such as comments which were placed in inappropriate positions on the Module Feedback Instrument and could not be interpreted.

This is not to suggest that data from other sources were totally ignored. However, stronger and more frequent cross validation between sources was sought and was required before a change was suggested.

The following table presents a series of 11 suggested modifications for Module 6. Each suggestion is referenced to the section of the module to which it pertains, and is supported by a rationale statement and an indication of the information sources which provided documentation for the suggested modification.

Formative Micro-Analysis: Module 7

The field test edition of Module 7 contained two inservice experiences dealing with assessment of learner achievement and follow-up of learners after they have been involved in some form of vocational and special education programming. The activities included in this module are evaluative in nature, and are generally performed sometime during or after the implementation of an instructional program. The major purposes of Module 7 (Evaluating Learner Progress) were: (1) to assess the achievement or progress attained by special needs learners for the relevant, concerned audiences; and (2) to utilize this information in improving the instructional program.

Table 16

Formative Micro-Analysis Summary: Module 6

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Add an illustration or vigenette which graphically portrays the importance of the processes of instructional implementation.	33% of the field test participants and Expert Review Team felt that the introduction as currently written did not adequately capture the interest of the reader.	External Participant Feedback Internal Expert Review
Module Goals	Drop the competency dealing with "Structuring a filing system for records and report forms."	The competency was ranked 26th out of 32 competencies considered by the Expert Review Team as being critical to effective programming for special needs learners.	Internal Expert Review Competency Questionnaire
		The competency was consistently ranked low (3.76) by the field test participants in terms of relative time spent performing and perceived need for inservice instruction.	External Participant Practices and Perceptions
	Clarify the relationship between Modules 5 and 6 regarding those goals related to instructional techniques (e.g. peer instruction).	Four specific instructional technique competencies are identified, but there is no specific inservice experience or experiences on implementing these techniques in the present version of Module 6. There is, however, an inservice experience in Module 5 focused on planning instructional activities.	Internal Product Review
	Incorporate the competency "Obtaining work permits" within the broader, more inclusive competency "Planning and coordinating work experiences."	An extremely low relative amount of time spent performing this task was indicated by the field test participants. The person most likely to perform the task is the teacher/coordinator within his/her responsibilities for planning and coordinating work experiences. The Expert Review Team rated the competency extremely low in criticality for teachers and relatively high for coordinators.	External Participant Practices and Perceptions Internal Expert Review Competency Questionnaire

Table 16 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Description of Inservice Experiences	Add an indication of the specific appropriateness of selected inservice experiences in this module for certain professionals.	Inservice Experience 14 on planning and coordinating work experiences is primarily for teacher/coordinators and prospective teacher/coordinators. The competency questionnaire and other sources indicate that this competency is extremely critical for work study and cooperative education coordinators and relatively unimportant for teachers.	External Participant Feedback Internal Expert Review
Inservice Experience 11 Analyzing Instructional Materials	Incorporate the several minor suggestions mentioned in the Product Review section of the micro-analysis.	These minor detail suggestions and clarifications are based on actual use of the forms in this experience and can increase the efficiency and usefulness of several of the forms. Most of the suggestions were made by the users themselves.	Internal Product Review
Inservice Experience 12 Providing Reinforcement and Feedback	Incorporate a discussion of more general and humanistic reinforcement strategies.	33% of the participants felt that some modification was necessary to increase the practicality of the suggestions and guidelines for this experience. The straight behavior modification approach presently used was questioned by several field test participants.	External Participant Feedback External Participant Logs
Inservice Experience 13 Planning and Coordinating Work Experience Programs	Add a discussion regarding the procedures and feasibility of community-based career exploration for special learners at the junior high and middle school level. Incorporate information on such new federal programs as WECEP (Work Experience and Career Exploration Program).	When a team of junior high school teachers (field test participants) attempted to establish such a program, numerous problems were encountered (e.g. child labor laws), which could have been avoided if more information had been presented initially.	External Participant Logs Participant Observer Reports

Table 16 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Self-Evaluation	Consider the possibility of revising the location or format of the self-evaluation checklists.	22% of the field test participants indicated "some" modification is needed, but specific comments were not provided.	External Participant Feedback
General	Throughout the module, inform users that the guidelines and suggestions may tend to be overly brief and simplistic, and encourage inservice users repeatedly to consult the references or other professionals if problems are encountered and are not adequately explained.	Although the primary audience for these materials is educators who are receiving inservice education, it is difficult to assess how much prior knowledge and skill the particular participant may have. In order to be useful, however, the modules must be concise and as explicit as possible. Realistic options should be available for the user who encounters difficulty.	External Participant Feedback Internal Expert Review
	Develop and add an inservice experience on "Managing and adapting the learning environment."	This competency was ranked 17th out of 32 instructional development competencies for all 7 modules, and had a mean criticality rating of 4.11 on the 1 to 5 scale.	Internal Expert Review Competency Questionnaire

Scope of Formative Evaluation. Module 7 was the last module to be written. The original draft of the module, along with Module 6, was developed while the field testing of the other modules was underway. It was available for use by the participants at Site A, the independent selection site, for the last five weeks of the 12 week field test period. At Site B, the module was not formally presented and discussed in class until the eleventh week. It was, however, distributed on the ninth week, and the participants were encouraged to review and use it prior to the scheduled date of presentation in class.

The scope of the formative evaluation activities completed on this module was extremely limited. As shown in Table 17, none of the field test participants completed either of the two inservice experiences. This was due, in part, to a number of factors. As noted in the micro-analysis of Module 6, the participants at the independent selection site demonstrated a definite tendency to select and complete inservice experiences in their numbered order. At this site, Module 7 appeared to be the last considered for implementation, at the end of what several of the participants at both sites noted as being ". . . a very intensive course; and I feel like I've only scratched the surface."

A total of ten expert reviewers received Module 7, and five completed reviews were received. Each reviewer also elected to keep the module for future reference, and returned only the Module Feedback Instrument and Utilization Checklist. Three of the reviews were quite detailed with extensive narrative comments.

Validation of Competencies. Two competencies in the initial list of 32 instructional development competencies were specifically focused on evaluation of learner progress. In addition to these two competencies, several others having to do with assessment and evaluation were included in Modules 1 and 5.

Table 17

Scope of Formative Evaluation of Module 7

Formative Evaluation Descriptors	Site A	Site B	Expert Review Team
Direct instructional time	0.5 hours	2.5 hours	—
Number of participants completing			
Inservice Experience 14	0	0	—
Inservice Experience 15	0	0	—
Inservice Module Feedback Instruments returned	18	8	5
Module Utilization Checklists returned	—	—	5

Both of the competencies, "Use a variety of performance-based techniques for evaluating a student's competencies" and "Obtain follow-up data and information on special needs students leaving or graduating from school programs," received relatively high mean criticality ratings on Competency Questionnaires I and II. "Using performance-based evaluation techniques" was ranked second in the overall ranking of the 32 competencies and received a mean criticality rating of 4.509 on a scale of 1 to 5. "Obtaining follow-up data" was ranked 20th and had a mean criticality rating of 4.095.

In general, the ERT felt very strongly about the total role of evaluation and assessment in instructional development for special needs learners. The competency on monitoring learner progress, which was included in Module 5, was ranked third and has a mean criticality rating of 4.400. Another competency included in Module 1 which focused on pre-instructional assessment of specific learning needs was ranked fifth with a mean criticality rating of 4.354.

The ERT competency validation data reflected some interesting insights regarding the criticality of the competencies for different professionals involved with special needs learners. For the competency "Using performance-based evaluation techniques," mean criticality ratings for vocational teachers, special education teachers, and cooperative/work-study coordinators differed by only .035 scale points (4.759-4.724). This suggested that it was equally and intensely critical for all of these professionals to be competent in this task. The validation data on "Obtaining follow-up data" suggested that this was most critical for coordinators (4.759), somewhat critical for counselors to perform (4.379), and less critical for special education teachers (3.897) and vocational teachers (3.345).

Contextual Data. The pre-field test interviews with the local directors of vocational and special education at both sites were found to be most informative regarding student follow-up activities.

The vocational directors at Site A indicated that annual follow-up studies were conducted on all Cooperative Work Training (C.W.T.) graduates. C.W.T. is a cooperative work experience program designed for drop-out prone youth and authorized by the Illinois Office of Education. During the field testing at Site A, the three C.W.T. coordinators confirmed that they conducted annual follow-ups, but felt they were limited in their usefulness for improving school programs because the follow-up was ". . . basically only a head counting."

The special education director at Site A indicated that formal follow-up studies were not conducted on a regular basis. However, during the field testing at Site A, informal discussions with the high school special education personnel clearly reflected their awareness of the current placement of most of their recent graduates. This was noted in one of the participant-observer reports.

At Site B, the vocational director indicated that most of the follow-up activities were done by the cooperative education coordinators at the high schools since the majority of graduates who take vocational courses also enroll in cooperative vocational education in their senior year. The special education director was not aware of any recent student follow-up surveys of a comprehensive or formal nature.

Internal Data - Pilot Review. The field test edition of Module 7 was mailed to ten members of the ERT for review. After one telephone follow-up, a total of five completed reviews were received. As with the reviews submitted by the ERT on the other modules, the majority were detailed and provided several constructive citicisms. In nearly all instances, when members of the ERT indicated that modifications in certain sections were needed, a narrative comment was provided to clarify or specify specific changes needed.

The members of the ERT reviewing Module 7 concurred with the outcomes of the competency validation survey by noting the improtance of this module. One reviewer noted, "Both inservice activities are extremely important to providing relevant career education to special needs students." Another reviewer stated emphatically, "This module/competency is extremely relevant to and essential in teaching special needs students."

Two of the reviewers felt that some additional content was needed. Both reviewers offering this suggestion are known to have had considerable experience and recognized expertise in the area of evaluation and assessment of the handicapped. Both felt that more illustrative and extensive examples could be provided for both the Learner Performance Profile (Inservice Experience 14) and the Learner Follow-up Survey (Inservice Experience 15). Concerning the follow-up activities, it was suggested that sample data be presented and methods of interpretation and analysis illustrated. A member of the ERT, who is currently employed as a local vocational director, suggested that the most efficient process for follow-up of special needs students is to "Have the staff personally contact and interview the students and fill out the forms themselves."

One reviewer expressed a concern relative to the brevity of the module. Part of the reviewer's justification for expansion was that the audience for the learner evalaution data should be enlarged to include rehabilitation and social agency personnel. The underlying concern, however, appeared to be that Module 7 lacked sufficient depth to fully acquaint the user with the various dimensions of the evaluation process. The basic question is similar to that raised by some of the ERT members in reviewing other modules: How much content depth does the inservice audience require? It was noted, however, that this reviewer did not review Modules 1 through 5 which contained supplementary content relating to evaluation of learner progress.

The time required to complete Module 7, as estimated by the ERT members, ranged from five hours to 40 plus hours.

Organization and the applied nature of the inservice activities were identified by the ERT as the features they liked most about Module 7. "It is clear, to the point, and relevant" was one comment. Another reviewer ". . . really liked the 'hands-on' assignment." There were no specific comments provided in regard to the least-like features of Module 7, other than one comment which recommended improving the examples and guidelines for development.

Internal Data - Product Review. As noted in a previous section of this micro-analysis, no inservice products were submitted during the field testing. When the field test participants submitted their feedback evaluation instruments for Module 7, three included forms and other achievement assessment materials they were using to evaluate learning progress. Two of the forms received were found to be very similar to the Learner Performance Profile in design, intended use, and evaluation orientation.

It is regrettable that sufficient time was not available during the field testing to permit the development of products from Module 7. However, the teacher-designed evaluation forms submitted by three of the participants provided some degree of insight regarding the participants' feelings about the evalution process and purpose.

External Data - Participant Feedback. A total of 26 Module Feedback Instruments were received from the field test participants at both sites. As with previous modules, the reaction appeared to be favorable with 75% or more of the participants agreeing that no modifications were needed on nearly all of the 32 evaluative criteria addressing specific sections of the module. On three criteria, however, there was a 25% or greater consensus of agreement that some modification was necessary. These criteria included:

Interest generating ability of the introduction	35%
Readability (language) of Inservice Experience 14	27%
Reasonableness of suggestions in Inservice Experience 15	27%

None of the participants indicated a need for major modification on any of the 32 criteria.

The overall, general evaluation of the module was also favorable. The participants, even though they had only read the module instead of actually using it, considered the module: to be neither technical nor superficial, to contain highly meaningful objectives, to contain relevant content, and to be well organized.

Comments regarding the two inservice experiences were obtained with nearly equal frequency when the participants were asked to indicate what they liked the most about the format and/or content of Module 7. The like-most comments also reflected on clarity of methods and procedures, usability of forms, and the improtance of evaluation. A representative sampling of the comments is provided below:

> The module is very good and provided insight on performance-based evaluation. I will try to incorporate it in my classes second semester.
>
> Clear objectives. Learner Performance Profile is very good in that ratings are done with the basis being a developmental process rather than some national norm.
>
> Evaluation like this tells you what changes need to be made.
>
> This gives you the opportunity to see if your teaching really gained anything with the special needs student. It attempted to tie the whole concept together to determine if it had been worthwhile.

> I presently use a follow-up study, but this gave me some new ideas.
>
> Learner Performance Profile is a very good form that can be used with all students.

Nine of the 26 responding participants also offered specific comments regarding what they liked least about the module. Several potential weaknesses and potential recommendations were noted in the participants' comments regarding what they "liked least" about the module.

> Amount of time involved—unless released time were available to the teacher for all the paperwork.
>
> The follow-up is useful only for high school.
>
> Follow-up instrument is too long—student would never return it.
>
> Follow-up cannot be used in junior high.
>
> Length of introduction kills my interest.
>
> Difficulty of follow-up questionnaire. It would have to be modified for special education students.

Nine of the ten general recommendations for improvement provided by the participants focused on the follow-up inservice experience (Inservice Experience 15). A representative sampling of the recommendations is presented below:

> Our follow-up is done by phone.
>
> Need to exemplify how follow-up can be used in transition from junior high school to senior high school.
>
> Limit the follow-up questionnaire to one page.

> We have tried sending out brief follow-up cards
> (to be returned) this year.

A broad range of responses was received on the Module Feedback Instrument when the participants were asked to estimate the time required to complete Module 7 for one student. The range of estimates which was provided on 14 of the responses was 2-20 hours. The most commonly mentioned estimates were within the 8-12 hour range.

External Data - Participant Practices and Perceptions. The results from the identical pre- and post-field test needs assessment instruments reflected substantial mean increases in the reported relative amount of time spent performing the instructional practices contained in Module 7. Interestingly, this increase in reported relative time spent performing occurred even though no inservice products were submitted during the field test period.

The mean relative time spent "Using performance-based evaluation techniques" increased from 3.034 to 4.068, an increase of 1.034 points on a 0-7 point scale. Although the participants didn't discuss any specific follow-up activities or surveys being initiated, the reported mean relative time spent on "Obtaining follow-up information" increased from 2.931 to 3.241.

Within both field test groups there were no major differences in relative time spent "Using performance-based evaluation techniques" by teaching area, professional role, or level on either the pre-or post-field test measure. On "Obtaining follow-up information," however, there appeared to be some major differences in the time spent on this activity. Teacher/coordinators in both vocational and special education spent considerably more time on follow-up than did the teachers. Also, senior high school and area vocational center personnel spent considerably more time on follow-up than junior high or middle school personnel.

From pre-to post-field test assessment, the participants' interest in wanting to know more about these two areas of evaluating learner progress decreased. On the 5 point scale ranging from "no more" (1) to "much more" (5), the mean score for "Using performance-based evaluation techniques" dropped substantially from 3.796 to 3.069. This probably was due, in part, to the performance assessment and description theme which pervaded the series of modules. The mean score for "Obtaining follow-up information" dropped from 3.000 to 2.828. It was noted, however, that in both instances the post-measure mean scores were near the midpoint (3) of the scale, which carried a descriptor of "a bit more." This suggested that the participants felt a slight need to know more regarding Module 7 at the conclusion of the field testing.

External Data - Participant Logs. A review of the 95 logs submitted by the participants during the course of the field testing contained only five informal comments pertaining to Module 7. Some of the comments noted are a duplication of what was reported earlier. Two comments, however, provided additional insight with regard to the importance of and techniques for using learner progress information.

> I intend to use the Learner Performance Profile for evaluation of both Serena and Tammy. Eventually, I would like to set this system up for every student in the clothing class—this would make evaluation much more accurate.

> I like the Learner Performance Profile and plan to adapt it and try it. It's good information for future teachers of the student, student's personal assessment, and with grade cards, or during parent conferences.

External Data - Teacher Portrayals. The teacher portrayals prepared by the participant-observer did not contain any participant or specific evaluative comments pertaining to Module 7. The teachers interviewed had apparently not used Module 7 in the two months following completion of the field test.

Suggested Modifications: Module 7

Due to the extremely limited scope of the formative evaluation activities completed, the decision as to what suggested modifications were to be offered was based solely on hard, cross-documented data, rather than participant feelings or informal reflections from the logs. Extensive cross validation of needed modifications between the participants and previewers was also considered necessary. It was felt that 25% consensus of both the participants and reviewers was needed in order to justify suggested modifications. Suggested modifications were also included if two or more information sources supported the modification.

Since Inservice Experience 14 was closely related to assessment activities in Modules 1 and 5, it was felt that changes in those modules regarding the assessment system for the implicit instructional development model could also be made in Module 7 for the purpose of continuity between modules.

Table 18 on the following pages provides a summary of the suggested modifications for Module 7. The summary table also includes a rationale statement for each suggested modification and cites the supporting information source(s).

Formative Macro-Analysis

This section is designed to compare and contrast the suggested modifications emerging from the seven micro-analyses of the individual modules. Table 19 on pages 182-184 indicates which suggestions were cited most frequently in the different modules. All of the suggested modifications from the tables of each micro-analysis are summarized, by module, in this table.

Table 18

Formative Micro-Analysis Summary: Module 7

Section	Suggested Modification	Rationale	Supporting Information Source
Introduction and Rationale	Expand the section describing the audience for which learner progress information is gathered to include rehabilitation and social service agency personnel.	Two expert reviewers experienced in working with these agencies indicated that such information on school performance is rarely available and would be useful for these agencies to have.	Internal Expert Review
	Emphasize the relationships among Modules 1, 5, and 7.	Some of the reviewers' and participants' responses on the Module Feedback Instruments included questions regarding how this module tied in with Module 1 on assessing learner needs and the progress evaluation system included in Module 5.	External Participant Feedback External Participant Logs Internal Expert Review
Description of Inservice Experiences	Indicate that the experience on conducting a learner follow-up survey is not appropriate for junior high or middle school personnel; or include a section in this inservice experience specifically for teachers to use in following up special needs learners going from junior high to high school.	Nearly all junior high school field test participants indicated that this experience, as written, was inappropriate for their situation. 25% of these participants felt something was needed in this area and recommended that a separate set of procedures and instruments be developed for junior high school use.	External Participant Feedback External Participant Logs
Inservice Experience 15 Conducting a Learner Follow-up Study	Change the suggested procedure involving a follow-up survey by mail to procedures for following up by phone or personal contact.	32% of the participants and reviewers felt the mail survey was not a realistic suggestion because of the nonverbal characteristics of special needs learners and the extremely poor rate of return experienced in previous, similar survey attempts.	External Participant Feedback External Participant Logs Internal Expert Review

Table 18 (continued)

Section	Suggested Modification	Rationale	Supporting Information Source
Inservice Experience 15 Conducting a Learner Follow-up Study	Emphasize more strongly that follow-up studies of special needs learners should be localized to fit whatever follow-up system may currently exist.	Several of the respondents at Site A indicated they currently do follow-up studies, but that their procedures were considerably different. The increased emphasis on local accountability has resulted in many districts now initiating annual student follow-up efforts.	External Participant Feedback Contextual Data
	Include at least one example of follow-up data and interpretations.	40% of the reviewers and several participants noted that this is essential in pointing out the kind of information that can be obtained and the importance of it. Several of those participants who indicated they had participated in follow-up studies, did not find it worthwhile because it was simply a "head counting" activity.	External Participant Feedback External Participant Logs Internal Expert Review
General	Provide additional references for supplementary reading keyed to specific sections of each experience; or expand the discussion sections of each of the two inservice experiences to incorporate more specifics related to measurement, e.g. validity considerations, item construction, etc.	40% of the reviewers and three participants indicated that the module "glossed over" several key points in both experiences.	External Participant Feedback Internal Expert Review

Table 19

Formative Macro-Analysis Summary

Module Sections and Suggested Modifications	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7
1. Introduction and Rationale							
a. Add a case study to stimulate reader interest and describe a real life use of the module activity.		X	X	X	X	X	
b. Clarify and emphasize the relationship(s) of this module to other module(s).	X				X	X	X
c. Emphasize the potential increase in efficiency by team involvement in instructional development.					X		
d. Expand the audience for the information produced as a result of completing the module.							X
e. Include a description of different ways other teachers have successfully used the module.		X					
f. Indicate clearly the technical nature and additional time involved in completing the module(s).				X			
2. Module Goals							
a. Eliminate a preliminary competency.	X					X	
b. Incorporate a competency within an existing broader competency statement.						X	
c. Include more descriptive information indicating "how" the participant will attain the stated goal(s).				X			
3. Description of Inservice Experiences							
a. Describe the relationship(s) of inservice experiences within a module	X				X		
b. Clarify the directions for selection of inservice experiences		X		X			
c. Modify the sequence in which the inservice experiences are presented within the module.					X		
d. Indicate more clearly the target audiences for specific inservice experiences.							X
4. Participant Response							
a. Clarify to what extent the selection of specific inservice experiences is totally optional, recommended, or highly recommended based on their content.	X			X			

Table 19 (continued)

Module Sections and Suggested Modifications	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7
5. Inservice Experiences							
a. Expand one or more of the guidelines/suggestions for development.		X	X	X	X	X	
b. Provide additional completed examples of one or more of the forms for use at different program levels (e.g. junior high school).	X	X		X	X		
c. Clarify a specific concept or section of a form(s).		X	X	X			
d. Include additional resource materials.		X	X				X
e. Describe how inservice products from different modules are articulated.	X				X		X
f. Modify the format of one or more forms.			X	X			
g. Provide additional completed examples of one or more forms for different occupational programs.				X			X
h. Include a flow or process chart to clarify procedures and to provide an overview of the inservice experience.				X			
i. Delete or modify an inservice experience.	X						
j. Refine the content of one or more of the forms.	X						
k. Add a glossary defining some of the key terminology used.	X						
l. Describe the alternative uses of one or more of the forms.		X					
m. Include a case study illustrating how a teacher used a form in a specific situation.	X						
n. Clarify which of the forms are to be completed.				X			
o. Develop an additional inservice experience.						X	
p. Modify one or more of the guidelines/suggestions for development.							X
q. Emphasize adapting the guidelines/suggestions for development to fit local district policy and/or procedures.							X
r. Expand one or more of the forms.	X						
6. Self-Evaluation							
a. Move the self-evaluation checklists to the end of each inservice experience.	X	X	X	X		X	

Table 19 (continued)

Module Sections and Suggested Modifications	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7
7. Resource Bibliography							
a. Provide additional references for each in-service experience.	X						
8. General							
a. Minimize the use of sophisticated or technical terminology.			X	X			
b. Direct readers to specific references or other sources for additional information on specific topics.						X	X
c. Shorten specific, technical sections by referring the reader to a specific reference and eliminating the detailed explanation.				X			
Total Number of Suggested Modifications per Module	13	8	7	15	6	8	10

Two suggested modifications were frequently cited for the introduction and rationale section of the modules. First, the addition of a case study or some other "actual use" description of the concepts presented in the module was suggested for five of the seven modules. Another frequent suggestion for this section was the addition of information describing the relationship of this particular module to others in the series.

In two modules, it was suggested that one of the preliminary competencies should be eliminated. There were no suggestions to add specific competencies reported in the micro-analyses. Another suggested change for the Module Goals section was the addition of information that would describe "how" participants would attain the stated goals.

Two areas of concern regarding the Description of Inservice Experiences were apparent in the micro-analyses. In two of the modules, descriptions of the relationships between the inservice experiences included in the module were found to be necessary additions. In two additional modules, the directions for selection of the inservice experiences were unclear.

In the Participant Response section, a concern over the relationship between inservice experiences in a module was again expressed. In two modules, it was suggested that the extent to which the selection of different inservice experiences by the participant is "recommended, highly recommended, or optional" be made more clear.

The inservice experiences, which comprised the major portion of each module, were also the target for the largest number of suggested modifications. The most frequent suggestion offered was expansion of one or more of the guidelines/suggestions for development included in the module. This revision was suggested for five of the seven modules. The addition of more completed examples of forms to be used by the participants was suggested for four modules to provide users from different program levels (junior high and senior high school) with models from which to work. Clarification of a specific concept or section of a form included in one of the inservice experiences was also suggested frequently. The addition of supplementary resource material and the inclusion of a description of how the inservice products from different modules can be articulated were cited as suggested modifications for three modules. Several other suggested modifications were provided for the inservice experiences in one or two of the modules.

The only suggestion offered in the micro-analyses regarding the self-evaluation checklists was that they be moved into each inservice experience rather than being presented at the end of the module. In five of the seven modules, the micro-analysis cited this modification with the rationale that relocating the checklists would provide the users with immediate and useable feedback regarding their product development efforts.

For two of the modules, it was suggested that the Resource Bibliography be expanded. A general suggestion was also offered for one module, that when highly detailed or technical information is presented in a particular inservice experience, a specific reference(s) should be cited, and the narrative section of the inservice experiences shortened accordingly. Directing the module users to other sources for additional or supplementary information was also suggested for two modules.

Evaluative Outcome Analysis

This section is designed to address the key evaluation questions presented in Chapter I. A series of evaluative questions were identified as the major framework for the study for the purpose of evaluating both the module series, and selected aspects of the inservice delivery system used in the field testing.

Evaluative questions were identified in the following areas: evaluation of preliminary competencies, developmental formative evaluation, and product/outcome evaluation. The outcomes of these questions, which are described in the following pages, provided additional insight for revision of the modules.

Evaluation of the Preliminary Competencies. A series of five evaluative questions were framed to determine the importance or criticality of the competencies to be included in the module series. These questions focused on: (1) the criticality of the competency to planning, implementing, and evaluating instruction; (2) the appropriateness of specific competencies for selected personnel (e.g. vocational teachers or special education teachers); (3) the most frequently performed competencies in different educational settings (e.g. comprehensive high schools, junior high schools, and area vocational centers); (4) the extent to which the participants saw themselves as having already attained the identified competencies; and (5) additional competencies to be included in the modules.

In July, a total of 30 competency questionnaries were sent to the members of the ERT to determine the criticality of the preliminary competencies identified for inclusion in the modules. Initially, 32 instructional development competencies were identified by the director from a review of several competency identification studies completed for vocational and special education personnel. These competencies formed the basis for Competency Questionnaire I which is presented in Appendix D. After a follow-up, responses were received from 29 members of the ERT (96.6%). The data were tabulated and the interquartile range for each competency was calculated and found to include competency ratings generally about 1.50 points above and below the mean. A second questionnaire, Competency Questionnaire II (Appendix G), was developed and mailed to 25 of the 29 respondents to solicit greater consensus on the criticality ratings for the 32 competencies. Two of the 29 respondents to Competency Questionnaire I did not rate any of the items in the upper or lower quartiles. Thus, they did not receive Questionnaire II. The other two respondents did not receive Questionnaire II because their original questionnaries were not returned until December, at which time the results from Questionnaire II had already been tabulated. Nineteen of the 25 Competency Questionnaire II instruments mailed were returned (76.0%).

The data from the two competency questionnaires were summarized, and means were computed for each of the four personnel groups identified and across all groups for each of the 32 competencies. The mean criticality ratings across all groups for each competency were also ranked to provide an overall ranking of the 32 competencies. These summarized data served as the primary source for addressing the following key evaluative questions concerned with validation of the preliminary competencies.

1. Which of the identified competencies are important or extremely critical to planning, implementing and evaluating instruction for special needs students? Tabulation of data from Competency Questionnaires I and II showed that the 32 individual competencies received overall mean criticality ratings between 3.466 and 4.629. A 1-5 point criticality scale was used which defined the midpoint (3) as "important" and the upper end (5) as "extremely critical." Thus, all of the preliminary competencies were considered important by the ERT.

Twenty-one of the competencies received mean criticality ratings between 4.000 and 4.629, while 11 were rated between 3.466 and 3.999. This suggested that approximately 2/3 of the competencies were considered closer to the "extremely critical" level than the "important" level.

The individual micro-analyses reviewed the competency validation data from the ERT that were pertinent to specific modules. In nearly all of the modules, different levels of criticality were noted for successful performance by selected personnel. In the case of one of the competencies addressed by Module 1, for instance, the ERT felt that it was much more critical for special education teachers and consultants to be able to "Develop and use a screening and referral process for identification of special needs learners" than for vocational teachers to be able to perform the same task.

There were no discernible trends in the competency validation data which would suggest that one module was more critical than another. The 11 competencies receiving the highest criticality ratings were addressed in six of the seven modules.

The lowest rated competency on Competency Questionnaires I and II was "Develop a composite profile of learning characteristics for a group of special needs learners." Although the mean criticality rating for this competency was 3.466, it was deleted when several reviewers of the pilot version of Module 1 noted it was in conflict with the concept of individualized learner needs assessment. Another competency, "Aid special needs learners in obtaining work permits," was eliminated when it was determined in the micro-analysis of Module 6 to be within the scope of the broader competency, "Plan and coordinate off-campus and on-campus work experience instruction."

2. Which of the competencies are uniquely appropriate for selected personnel? The data from Competency Questionnaires I and II were also analyzed to determine the criticality of the preliminary competencies for three different types of education personnel. An analysis of the criticality ratings was conducted for each personnel group on each competency. The range of mean criticality ratings on a group basis was 2.897 to 4.966. Following this analysis, it was determined that any competency having a 4.500 or higher mean criticality rating could be considered as highly critical, and especially appropriate for a particular personnel group. Tables 20 through 22 on the following pages

Table 20

Critical Competencies for Vocational Teachers

Criticality Rating	Competency	Module
4.897	Select or develop instructional materials for special needs learners.	5, 6
4.862	Utilize instructional techniques that individualize instruction.	6
4.793	Manage and adjust as needed, equipment and conditions in the learning environment.	6
4.793	Provide reinforcement and feedback for learning.	6
4.759	Develop student performance objectives for instructional modules or units.	5
4.759	Design instructional strategies (activities and methods) appropriate for and effective with special needs learners.	5
4.724	Design a system for monitoring student progress and achievement on a regular basis.	5, 7
4.724	Use a variety of performance-based techniques for evaluating a student's competencies.	7
4.890	Plan a sequence of modules according to the learner's needs.	5
4.621	Identify modules or units of instruction appropriate for special needs learners.	5
4.593	Utilize laboratory-based, hands-on instruction.	5
4.552	Utilize small group instructional techniques.	5

Table 21

Critical Competencies for
Special Education Teachers and/or Consultants

Criticality Rating	Competency	Module
4.966	Design instructional strategies (activities or methods appropriate for and effective with special needs learners.	5
4.966	Select or develop instructional materials for special needs learners.	5, 6
4.931	Utilize instructional techniques that individualize instruction.	5
4.793	Manage and adjust as needed, equipment and conditions in the learning environment.	6
4.793	Provide reinforcement and feedback for learning.	6
4.759	Plan a sequence of modules according to the learner learner's needs.	5
4.759	Develop a cooperative teaching strategy (resource or consulting) for instruction in basic concepts and competencies.	2
4.724	Identify modules or units of instruction appropriate for special needs learners.	5
4.724	Develop student performance objectives for instr instructional modules or units.	5
4.724	Design a system for monitoring student progress and achievement on a regular basis.	5, 7
4.724	Use a variety of performance-based techniques for evaluating a student's competencies.	7
4.724	Utilize small group instructional techniques.	5
4.621	Identify basic language and quantitative concepts associated with the content of instructional modules or units.	5
4.552	Collaborate with other educators, specialists, and parents in evaluating the learner's educational needs.	1

Table 22

Critical Competencies for Cooperative or Work-Study Coordinators

Criticality Rating	Competency	Module
4.931	Plan and coordinate off-campus or on-campus work experience (on-the-job) instruction.	6
4.759	Obtain follow-up data and information on special needs students.	7
4.690	Identify, coordinate, and utilize a variety of school, community, and governmental agency resources.	3
4.517	Provide reinforcement and feedback for learning.	6

identify the competencies that were highly critical for three groups: vocational teachers, special education teachers and/or consultants, and cooperative or work-study coordinators.

For vocational teachers, the competencies related to instructional planning (Module 5) appeared to be the most important. Selected competencies related to implementing instruction (Module 6) and evaluating learner progress (Module 7) were also found to be somewhat critical for vocational teachers. For special education teachers and consultants, again the majority of the critical competencies were related to instructional planning. Of the 14 competencies identified for this group, several also focused on identification and evaluation of special learners, implementing instruction, and evaluating learner progress (Modules 6 and 7). Maintenance of a cooperating or supporting role for special education personnel was also cited as critical (Module 2). Four competencies from three different modules were considered critical for cooperative or work-study coordinators, making it difficult to cite any one or two specific modules as being critical for this group.

3. Which competencies (as reflected by instructional practices) are performed most frequently by personnel in different educational settings (e.g. comprehensive high schools, middle schools or junior high schools, and area vocational centers)? Teachers and teacher/coordinators from each of these groups were included in the field test population. The data used to address this question were collected from the participants by means of the pre- and post-field test Needs Assessment Instrument (Appendix K). Prior to and immediately following the field testing, the participants were asked to indicate the relative amount of time they spent using an instructional practice (competency) with special needs learners for 33 different practices. The 0-7 point scale was defined at the ends with the following descriptors, "Very little time"

(1) and "Most of my time" (7). The directions indicated that the scale was to be left blank if the practice was not performed by the participant.

The pre and post mean relative time spent ratings were averaged for each of the three groups to obtain a combined measure of the time spent on each of the practices before and after the inservice program. It was assumed that the participants' report of time spent performing selected instructional practices both before and after the field testing would provide another indication of the perceived importance of these competencies to local school personnel.

For purposes of reporting, the 33 instructional practices were grouped (by averaging) into competency areas that were identical to the inservice experiences in the modules. Table 23 on the following page presents the composite relative time spent rating for each group by competency areas. In addition to the mean relative time spent rating, the rank (1, 2, or 3) of the rating in relation to the other groups on the same competency area is provided in parentheses.

For each of the competency areas focusing on the identification and analysis of special needs learners, the junior high personnel consistently reported spending more time than high school personnel. In turn, high school personnel spent more time identifying and analyzing learner needs than area vocational center personnel. This appears to be consistent with the notion or principle that more time is usually spent on identifying and remediating learning problems at early ages. This provided less of a concern for identifying major learning problems at the later secondary levels because they are likely to be fewer in number.

Participants at the junior high/middle school level reported spending considerably more time working cooperatively with other teachers or supportive personnel than either the high school or area vocational center groups. The

Table 23

Composite Relative Time Spent Ratings for
Junior High, Senior High and Area Vocational Center Personnel

Competency Areas	(N=7) Junior High Personnel	(N=17) Comprehensive High School Personnel	(N=5) Area Vocational Center Personnel
Identification and Analysis of Special Needs Learners			
Collecting Student Identification Information	4.454 (1)	4.419 (2)	2.889 (3)
Developing a Learner Analysis Profile	4.786 (1)	4.757 (2)	4.000 (3)
Developing a Learning Prescription	4.272 (1)	3.516 (2)	3.444 (3)
Cooperative Instructional Arrangements			
Developing a Cooperative Instructional Arrangement	4.666 (1)	3.625 (2)	3.555 (3)
Instructional Resources			
Developing a Special Needs Resource Inventory	3.311 (3)	3.667 (1)	3.425 (2)
Organizing and/or Utilizing a Special Needs Advisory Committee	2.273 (2)	2.000 (3)	3.700 (1)
Cluster and Content Analysis			
Specifying Career Clusters	3.769 (3)	4.344 (1)	4.111 (2)
Conducting a Career Cluster Analysis	3.300 (3)	3.531 (2)	3.899 (1)
Instructional Planning			
Sequencing Instruction	5.079 (1)	4.363 (1)	4.555 (2)
Developing Instructional Modules	4.040 (2)	3.783 (3)	4.166 (1)
Instructional Implementation			
Analyzing Instructional Materials	3.500 (2)	3.823 (1)	3.400 (3)
Providing Reinforcement and Feedback	5.071 (1)	4.971 (2)	4.889 (3)
Planning and Coordinating Work Experience Programs	1.214 (3)	4.412 (1)	2.800 (2)
Managing and Adjusting the Learning Environment	3.000 (3)	3.412 (2)	5.600 (1)
Evaluation of Learner Progress			
Developing a Learner Performance Profile	2.714 (3)	3.706 (2)	4.200 (1)
Conducting a Learner Follow-up Survey	1.428 (3)	3.676 (1)	3.400 (2)

mean differences between the junior high/middle school personnel and the other two groups were 1.041 and 1.111 scale points. Cooperation between vocational educators, special educators, and supportive personnel has obviously been hindered by the increased departmentalization at the high school level, and the geographic distances between these groups of professionals when area vocational centers entered the picture.

There were no discernible differences in the data on identifying and using school and community resources for serving special needs learners. All of the mean relative time spent ratings were within a range of 0.356 scale points of each other.

Also, there were no clearly discernible differences in the competency area dealing with career clusters and instructional content analysis. Although junior high/middle school personnel reported spending less time than either of the other two groups, the six mean ratings differed by less than 1.044 scale points.

The area vocational center and junior high/middle school personnel reported spending more time on instructional planning than did the high school personnel. This competency area received the highest relative time spent rating, in part, because it included a series of time consuming instructional planning tasks such as developing performance objectives and selecting instructional methods. One plausible explanation for the low relative time spent rating by high school personnel is that ten of the 17 participants in this group were teachers/coordinators. Teacher/coordinators, by virtue of the nature of their responsibilities, would spend less time on specific instructional planning than full-time teachers would.

Personnel from each of the three groups spent a considerable amount of time providing reinforcement and feedback for special needs learners, and relatively little time planning and coordinating work experience programs. The exception in this latter competency area was the group of high school personnel which was comprised of ten teacher/coordinators and seven teachers. The ten teacher/coordinators undoubtedly increased the group mean substantially. For some undetermined reason, the area vocational center personnel reported significantly greater amounts of time "Managing and adjusting the learning environment" than did either of the other two groups. When compared to the other two groups, their mean relative time spent rating was 2.300 and 2.188 scale points higher.

The final competency area, evaluating learner progress, revealed that area vocational center and high school personnel more frequently used performance evaluation measures and performance profiles. These two groups were also more frequently involved in learner follow-up studies than junior high/middle school personnel. It was noted in the micro-analysis of Module 7 that little is done or expected to be done by junior high personnel in following up special needs learners entering high school.

The composite relative time spent data from the pre- and post-field test Needs Assessment Instruments were also analyzed by teaching role. Table 24 on the following page presents the data for vocational teachers, special education teachers, and teacher/coordinators from both vocational and special education. For each of these three groups, the data were averaged by competency area, as was done in the previous analysis. In addition to the mean relative time spent ratings, the rank (1, 2, or 3) of the rating in relation to ratings for other groups on the same competency area is provided in parentheses.

For those competency areas focused on identifying and analyzing learner needs, it was quite apparent that the special education teachers performed these tasks quite frequently. "Developing a Learner Analysis Profile" was the area

Table 24

Composite Relative Time Spent Ratings for
Vocational Education Teachers, Special Education Teachers, and Teacher/Coordinators

Competency Areas	(N=15) Vocational Education Teachers	(N=4) Special Education Teachers	(N=10) Teacher/ Coordinators
Identification and Analysis of Special Needs Learners			
Collecting Student Identification Information	3.167 (3)	6.200 (1)	4.190 (2)
Developing a Learner Analysis Profile	4.241 (3)	5.500 (1)	4.895 (2)
Developing a Learning Prescription	3.320 (3)	5.143 (1)	3.579 (2)
Cooperative Instructional Arrangements			
Developing a Cooperative Instructional Arrangement	3.815 (2)	4.875 (1)	3.444 (3)
Instructional Resources			
Developing a Special Needs Resource Inventory	2.481 (1)	2.250 (3)	2.333 (2)
Organizing and/or Utilizing a Special Needs Advisory Committee	3.111 (3)	4.062 (1)	3.821 (2)
Cluster and Content Analysis			
Specifying Career Clusters	3.037 (3)	3.857 (2)	4.277 (1)
Conducting a Career Cluster Analysis	3.080 (3)	3.857 (2)	4.053 (1)
Instructional Planning			
Sequencing Instruction	4.286 (2)	6.375 (1)	4.211 (3)
Developing Instructional Modules	3.867 (3)	5.250 (1)	4.613 (2)
Instructional Implementation			
Analyzing Instructional Materials	3.166 (3)	5.500 (1)	3.526 (2)
Providing Reinforcement and Feedback	4.466 (3)	6.125 (1)	5.050 (2)
Planning and Coordinating Work Experience Programs	1.766 (2)	1.125 (3)	6.650 (1)
Managing and Adjusting the Learning Environment	3.667 (3)	3.750 (1)	3.700 (2)
Evaluation of Learner Progress			
Developing a Learner Performance Profile	3.333 (3)	3.750 (2)	4.222 (1)
Conducting a Learner Follow-up Survey	2.366 (2)	1.875 (3)	4.650 (1)

in which vocational teachers and the teacher/coordinators spent most of their time. The special educators also seemed to be the most active in initiating cooperative instructional arrangements.

The level of involvement in utilizing instructional resources appeared to be nearly equal for all three groups. Surprisingly, special educators reported being more active with advisory committees than either the vocational teachers or the teacher/coordinators.

Teacher/coordinators reported relatively high amounts of time spent on the identification and analysis of career clusters. However, when it came to utilizing the cluster analysis information in instructional planning activities, the special education teachers were the most active of the three groups.

The special education teacher group was also the most active in "Providing reinforcement and feedback" and "Analyzing instructional materials." Each of the three groups were involved in "Managing and adjusting the learning environment" at nearly equal levels. The difference from the lowest to the highest mean rating was only 0.083 scale points. Finally, the teacher/coordinators appeared to be much more heavily involved in conducting learner follow-up studies than either the vocational or special education teachers.

4. What additional competencies should be included in the existing modules? The last page of Competency Questionnaire I provided space for the Expert Review Team to list competencies not included in the questionnaire they felt were extremely critical for selected personnel in planning, implementing, and evaluating instruction for special needs students at the secondary level. Thirteen of the 29 respondents did choose to write in one or more competency statements in this section of the questionnaire. The majority of the added competencies were addressed to vocational teachers and special education teachers and/or consultants.

About 70% of the suggested competencies were focused on the necessary attitudes and feelings which personnel must demonstrate in working with special needs learners. Brief statements such as the following were provided:

> Do not label the student.
>
> Accept the student as he is now.
>
> Willingness to give of yourself.
>
> Become an advocate of the student.
>
> Demonstrate a sensitivity to the needs and problems the student brings.
>
> Be able to listen without judging or advising.
>
> Desire to teach the handicapped.

While these statements were not in the typical format of statements of observable and measurable performance, they did point out some very critical elements in the process of educating special needs learners. Because these types of competencies are, to a large extent nonobservable through a paper and pencil medium, it was determined that they were not appropriate for inclusion in a set of self-instructional teacher education materials such as the modules. This is not to suggest, however, that these areas of competency were not emphasized as a "hidden agenda" when the modules were used in the structured seminar inservice situation at Site B.

Several other additional competencies were also suggested by the ERT. Eight respondents listed competencies which were implicit within one or more of the 32 competencies listed. For example, six respondents listed competencies suggesting or directly implying that instructional staff should seek assistance from others or provide assistance if necessary. It was noted, however, that cooperation and utilization of supportive services was mentioned in four of the 32 preliminary competencies identified on the questionnaire.

Two members of the ERT specifically mentioned the addition of competencies related to career counseling, e.g. "Administering and interpreting the General Aptitude Test Battery and other appropriate tests." Counseling related competencies, although they are recognized as being quite important to the school and work adjustment of special needs learners, were not included in the preliminary list of competencies because of the specific instructional development focus and emphasis given to the modules.

Four other respondents listed at least one additional competency which emphasized the need for prior experiences on the part of vocational and special educators. Three respondents indicated vocational teachers should have: (1) "an understanding of the student;" (2) "a conceptual understanding of 'handicap';" and (3) "an appreciation of the student with special needs." Three of these four respondents also felt it was extremely critical for special education teachers to: (1) "be willing to assist the vocational teacher;" (2) "have a vocational background;" and (3) "be interested in coordinating special programs with regular programs." These competencies were considered by the director as potential and somewhat natural outgrowths for inservice participants using the modules. It was assumed that when a module user engaged in the process of planning, implementing, and evaluating an individualized program for a special needs learner, as outlined in the modules, he or she would concurrently be obtaining these more general knowledges and experiences if they were not obtained from prior experience in working with the special needs population.

In summary, a number of different types of additional competencies were suggested. However, it was felt that the competencies were either: (1) outside of the scope of instructional development; (2) already implicit in the preliminary

preliminary competencies; or (3) unattainable through a pencil and paper instructional medium such as the modules. Thus, no additional competencies were identified.

5. To what extent did the secondary school personnel enrolling in the inservice workshops already utilize the instructional practices suggested by the identified competencies? Prior to the field testing, the participants at Sites A and B generally reported that they were spending at least some time on all of the instructional practices suggested by the identified competencies. On a 0-7 point scale, the mean relative time spent ratings ranged from a low of 1.270 ("Conduct a community needs survey") to a high of 4.862 ("Provide reinforcement and feedback for learning"). The less frequently performed practices appeared to be supportive or supplementary in nature (e.g. "Use advisory committees" and "Identify and use supportive services"), while the most frequently reported practices involved direct instructional activities (e.g. "Provide reinforcement and feedback," "Use lab-based, hands-on instruction," and "Plan instructional sequences").

Prior to the inservice workshops, the participants were asked to what extent they "wished to know more about" each of the instructional practices. This question was framed with the assumption that low ratings would be reflected on those practices in which the participants already felt competent (though they might, instead, indicate individual feelings that the competency was unimportant). A 5 point scale ranging from "no more" (1) to "yes, a bit more" (3) to "yes, much more" (5) was used. Six instructional practices received mean ratings below 3.0, and two were rated at 3.0. These eight practices reflected the instructional practices about which the participants appeared to be least interested in knowing more:

Aid special needs learners in obtaining work permits	2.461
Use advisory groups in developing instruction	2.560

Specify career-related instructional programs which can provide the relevant occupational cluster instruction for a special needs learner	2.560
Conduct a community needs survey	2.826
Identify and utilize supportive services from agencies such as Vocational Rehabilitation	2.862
Use laboratory-based, hands-on instruction	2.880
Develop a filing system for records and report forms	3,000
Obtain follow-up information on special needs students leaving or graduating from school programs	3.000

Two administrators at each of the field test sites were also asked to review the list of instructional practices and strategies. For each instructional practice, they were asked to what extent their staffs (vocational education and special education) currently used this practice, and to what extent they felt their staffs should use this practice or strategy in working with special needs learners. The administrators tended to agree with the participants' perceptions regarding the need for inservice on about 90% of the instructional practices listed on the Inservice Needs Assessment Instruments. However, the administrators identified three instructional practices that appeared to be in conflict with the participants' perceptions of their need for inservice on selected instructional practices. At least one administrator from each site felt that their staff should be doing more than they currently were in the following areas: (1) "Use advisory groups in developing instruction;" (2) "Identify and utilize supportive services from agencies such as Vocational Rehabilitation;" and (3) "Conduct a community needs survey."

Developmental Formative Evaluation. Seven key evaluation questions were identified pertaining to the inservice use and content of the modules. These questions focused specifically upon: appropriateness of the format and content of the modules, feasibility of implementing the instructional development model presented in the modules, and appropriateness of selected inservice uses of the modules.

1. To what extent is the module format appropriate for inservice teacher education? Data collected from 25 of the 29 field test participants on the Illinois Course Evaluation Questionnaire (CEQ) tended to support a positive response to this question. Five questions from the CEQ were selected as indicators of the appropriateness of the modules for inservice teacher education.

Question nine on the CEQ asked the participants to what extent "The course material seemed worthwhile." On a 4 point scale with the end points described as "strongly agree" (4) and "strongly disagree" (1), the mean scores from Sites A and B were 3.63 and 3.67 respectively. The mean for the combined groups from both sites was 3.65.

Another question which also pertained to the modules in this instance was "The course material was too difficult." On this item, the participants at Site A generally disagreed with the statement and reported a mean score of 3.26. At Site B, where the modules were used in a structured seminar approach, the participants disagreed a bit more strongly with the statement and reported a mean score of 3.33. The combined mean for all participants was 3.28.

When asked the extent to which they agreed or disagreed with the statement "The course content was excellent," 47% of the participants at Site A and 33% at Site B strongly agreed. The mean scores reported at Sites A and B were 3.37 and 3.33 respectively. It was noted that 11% of the participants at Site A, where the modules were selected and used by the participants independently, disagreed with the statement that "The course content was excellent." However, 89% of the participants at the same site either agreed or strongly agreed with the statement.

Three other items on the CEQ reflected the participant's feelings regarding the way in which the field testing or inservice was conducted. At both sites about 2/3 of the participants agreed strongly that this ". . . was a very worthwhile course." However, 11% of the participants at Site A disagreed with the statement. The remainder of the participants (17% at Site A and 21% at Site B) agreed that it was a worthwhile course. All of the participants agreed (83%) or strongly agreed (17%) that they would take another course that was taught this way. When asked if they ". . . learn more when other teaching methods are used," 19 of the 25 participants (76%) could only moderately agree or moderately disagree. Although the two basic teaching methods used with the modules (individualized, self-selected instruction and small group discussion) were distinctly different, the range of agreement/disagreement was quite similar for both groups on this question. At both sites, about 33% strongly agreed, 47% (Site A) and 33% (Site B) agreed, and 21% (Site A) and 33% (Site B) disagreed with the statement that they learn more when other teaching methods are used.

The micro-analyses of the modules included several narrative comments indicating that the modules, and especially the forms presented within the modules, were comprehensive, helpful, usable, generally clear, and well organized. A number of other positive comments were found in the portrayals and participant logs endorsing the module format generally as an effective instructional material for inservice education.

2. To what extent does the supportive information and content of each module provide for the accomplishment of the objectives? Overall, the supportive information and content of the modules were found to be very appropriate for providing the field test personnel with the identified competencies. There were no suggested modifications cited in the micro-analyses calling for deletion

or major modification of resource materials, example forms, self-check evaluations, or the resource bibliographies.

In Part II of the Module Feedback Instrument, the participants and selected Expert Review Team members rated each module in terms of the relevancy of the content for obtaining the stated objectives. A 5 point bipolar scale was used with end points defined as: "content irrelevant to objectives" (1) and "content relevant to objectives" (5). The mean scores for the seven modules ranged from 4.34 to 4.65. The overall mean for the seven modules was 4.53.

A similar question asked the Expert Review Team members and participants to evaluate the adequacy of the resource materials and completed example forms provided in the modules. Again, a 5 point bipolar scale was used with the end points defined as: "inadequate examples and resource materials" (1) and "adequate, useful examples and resource materials" (5). The means for the individual modules ranged from 4.19 to 4.78 with the overall mean being 4.37.

The macro-analysis reflected a few possible modifications for refining the supportive information and example resource materials. The most frequent suggestion involved adding more completed examples of selected forms, with the examples targeted at junior high school level. This supplementary suggestion was offered for four of the seven modules. Including additional resource materials and more completed example forms for different occupational program areas were other suggestions offered.

The self-evalaution checklists were considered helpful by the participants, but it was suggested that they be moved to the end of each inservice experience to provide more immediate feedback for the user. The resource bibliography in each module was generally considered to be helpful and comprehensive.

3. To what extent is it feasible for secondary school personnel to implement the suggested instructional development model presented in the modules? The

instructional development model consisted of the systematic processes for planning, implementing, coordinating and evaluating instruction and supportive services implicit in the modules. The general, linear model was represented by the numbered sequence of the modules.

To some extent the modules were designed as independent units of teacher education information, but several were specifically related in content presentation. For instance, selected forms in Modules 1, 5, and 7 used similar student evaluation categories and criteria for assessing student competencies prior to, during, and following instruction.

Participants at Site A were encouraged to select modules and inservice experiences they thought were appropriate for their inservice needs. At Site B where all of the modules were used, the total instructional development model was presented.

In implementing the modules, one essential theme was emphasized in all sections of the modules and the discussions between the director and the participants. The theme of cooperation between vocational and special education personnel was introduced in the initial module (Module 1A, Cooperative Instructional Arrangements), and was emphasized throughout the remaining modules.

Since the modules were generally viewed as useful and practical by the participants, the basic elements of the model were considered highly feasible for implementation by individual teachers. The cooperative involvement dimension of the model was also seen as having significant potential benefits. However, the implementation of cooperative relationships appeared to be hampered by a number of contextual and professional constraints.

The benefits of cooperation cited in the micro-analyses included: (1) providing teachers with a "better understanding" of the student and his problems; (2) creating increased efficiency in the instructional development process by the division of instructional responsibility for specific content; (3) enabling the teachers to feel their programming was more effective; (4) developing a common, professional concern for special students among regular and special educators; and (5) providing for frequent and effective communication between teachers, parents, and employers. These five positive aspects were frequently cited in the participant logs and teacher portrayals as the major outcomes from cooperation among professionals in the instructional development process.

During the field testing the cooperative approach was implemented with the least amount of difficulty at the junior high school level. The increased level of departmentalization, scheduling inflexibility, and lack of prior experience in teaching cooperatively appeared to be the primary inhibitors to cooperation at the high school level. At Site A, the geographical distances between vocational education personnel at the area vocational center and special education personnel at the sending school was a primary deterrant to frequent communication. Also there were no special education personnel available to work with special needs students and the teachers during the time when the students were at the center.

To some extent the feasibility of implementing formalized, cooperative relationships appeared dependent upon the philosophy and policies of the school administration, and to a larger extent upon the philosophy and attitudes of the participants. At both sites, there was some suggestion of an attitude, at both the administrative and instructional level, of "I'm paid to do my job and others are paid to do theirs." In the past, there had been no joint staff meetings or inservice sessions that involved vocational and special education personnel even though large, comprehensive programs in both fields were offered in both districts. At the high school level, it did not appear that the need for teacher communication regarding special needs students was considered in the scheduling of classes. At the junior high level where the special education personnel were designated as resource teachers, the scheduling arrangement provided released time for coordination.

The most frequently cited concern of the participants was the lack of time they had for cooperation and coordination. Nearly all of the participants viewed the time spent in cooperative activities as time they would have to spend in addition to the time required by their other responsibilities. Very few appeared to believe that instructional time could be saved by initiating cooperative teaching efforts. For those participants who worked as part of a team in completing one or more of the inservice experiences, their typical reaction was "It helped me better understand the student and/or the other teacher." It was apparent that cooperation was not ingrained in the teaching style of the majority of the participants, and that it was initiated only when major problems were encountered. Cooperation, when it occurred, was basically a band-aid approach, as opposed to an established, accepted teaching style.

Since there were no substantial administrative mandates, guidelines, or incentives for cooperation, and since the participants viewed cooperation as an added responsibility consuming more of their time, the feasibility of implementing the instructional development model in a cooperative instructional mode is questionable. To make the model functional at the secondary school level, a common philosophy and administrative policy endorsing regular and frequent cooperation and communication among professionals involved with special needs learners seems to be critical. In both districts these philosophies and policies appeared to be somewhat in existance at the junior high school level, but nearly nonexistant at the high school level.

4. Which inservice approach from among the two utilized is most conducive to module-based inservice teacher education? It appeared that both approaches had positive as well as negative aspects as inservice teacher education strategies. Five questions on the Illinois Course Evaluation Questionnaire which was given to the participants at the conclusion of the inservice field test pointed out some conducive and nonconducive aspects of both approaches. The mean scores on each of the items was computed from a 4 point "strongly agree-strongly disagree" scale.

The participants at Site B, where the modules were used in a structured seminar inservice approach, felt that it was very easy to remain attentive (3.50), things were explained fairly well (3.17), and strongly disagreed with the statement that it was quite boring (3.67). At Site A, where the modules were utilized by the participants on an independent basis, the participants felt that it was only relatively easy to remain attentive (3.32), that things were not clearly explained (2.79), and that it was somewhat boring (3.47). Participants at both sites however, responded favorably to the comment "It was quite interesting." The mean ratings from Sites A and B were 3.32 and 3.33 respectively.

One item on the Course Evaluation Questionnaire pertaining to the evaluation of the instructor yielded some interesting but inconclusive results. In response to "The instructor was excellent" item, the participants at Site A provided a mean rating of 3.58, while the Site B participants rated the instructor's excellence at 3.33 (4.0 equals strongly agree). The data here are confounded to some extent because it was unclear as to what extent the participants considered the instructor to be the modules or the director. Of the two groups, Site A participants would have been more likely to consider the modules as the instructor because they had only limited personal contact with the director during the field testing. An attempt was made to locate course evaluation data on correspondence courses which might support this contention, but comparable data were not found to be available.

When the inservice products from both sites were evaluated, there were no significant differences in quality. On the average, the participants at Site A submitted 1-2 more inservice products than did the Site B participants during the 12 week field test period (the mean was 6.53 for Site A and 5.07 for Site B).

The informal comments contained in the participant logs and teacher portrayals did not reflect any clear cut differences in the appropriateness of either inservice approach. Both approaches seemed to be satisfactory for the participants who were involved in them.

Overall, it appeared that both inservice approaches were considered effective by the participants. For the five Course Evaluation Questionnaire items discussed earlier, the decile equivalents from both sites were examined, and found to be relatively high. The ten decile equivalents for items pertaining to the instructional approach were generally between the seventh and eighth decile for other University of Illinois graduate courses taught off-campus using conventional text-lecture-discussion.

5. What is the optimum time frame required for completion of each module in the different inservice approaches? The participants and expert reviewers were asked to estimate the number of hours it took them (or would have taken them) to complete the inservice experiences in each module. In all except two of the modules, the estimates or actual times were based on completion of the inservice expereinces for individual students.

The grand mean of the estimates and actual times per module from reviewers and participants were approximately 9.0 hours. The participants at Site B, where the modules were used in a structured seminar situation, reported the actual and estimated time per module as 10.4 hours, while at Site A the average time per module was 7.9 hours. The ERT's average estimated time for completion was 8.9 hours per module which was between the reported and estimated times from Sites A and B.

The module requiring the greatest amount of time on the average was Module 3, Instructional Resources (14.7 hours). This was one of two modules which contained inservice experiences that were done at the program level, instead of focused on an individual special needs student. For example, the Special Needs Resource Inventory from Module 1 was focused on resource identification for an instructional program. Cooperative Instructional Arrangements (Module 2) was the module requiring the least amount of time for completion (4.4 hours). The average time required for completion of the other five modules was between 10.4 and 6.0 hours.

The analysis of data revealed some differences based on the degree of involvement with the module prior to evaluation of it. The estimates provided by participants who had only reviewed the module were usually higher than the actual times reported by participants who had completed one or more of the experiences in the module. On two modules, the estimates ranged as high as 10-15 hours above the reported actual times.

It was noted in the micro-analyses and teacher portrayals that the participants felt attempting to cover all seven modules in a 12 week period was too much. At Site B where 36 hours of direct instructional time was provided, this concern was voiced by nearly all of the participants. Based on the estimated and actual times spent on the modules during the field testing, an inservice teacher education course including all of the modules should provide for at least 60 hours for completion of the modules, spread over about 15 weeks.

6. Which competencies should be reassigned to different modules? The initial assignment of the competencies to the seven modules, which was done by the director, appeared logical and accurate. None of the micro-analyses suggested shifts of specific competencies to other modules. The macro-analysis noted that competencies were eliminated and/or refined in Modules 1 and 6, but no suggestions were offered that indicated any of the competencies should be moved to other modules.

7. In what other types of inservice delivery systems could the modules be used effectively? Data were gathered from the ERT on the Module Utilization Checklist to address two aspects of this question. After reviewing a field test edition of a module, the reviewer was first asked to rate (1 through 5) the appropriateness of nine possible inservice approaches for conveying the content of the module. The second question involved ranking from 1 to 5 the appropriateness of incentives to be used in combination with the approach selected earlier as best. The reviewer was asked to respond to both of these questions for each of the two modules he or she reviewed.

The mean ratings for the inservice approaches and incentives were computed. An inspective analysis of the tabulated data indicated there were no major differences in the appropriateness of approaches or incentives for specific modules, nor were differences discernible based on the position or role of the expert reviewer.

Two inservice approaches [local district workshops and regional (within state) workshops] were clearly rated above the other seven approaches by the ERT. The local district workshop held the highest rating (1.72) while the regional workshop was rated second (2.38). Six other inservice approaches, including on- and off-campus university courses received mean ratings between

3.12 and 3.75. The inservice approach defined as "Informal, nonstructured, independent use by teachers or other educational personnel" received the lowest mean rating (4.88).

When six different incentives were considered by the ERT, only one (released time for participation in inservice) was clearly rated above the others. The remaining five incentives, which included university credit, additional salary, tuition reimbursement, district administrative mandate, and state certification requirement were all rated between 3.00 and 3.33.

It should be noted that the reviewers were asked to select appropriate approaches for individual modules and not the entire series. The context in which the series was offered may have influenced their preference for the traditional short-term inservice approach in the form of the local district workshop.

Product/Outcome Evaluation. A series of five key evaluation questions were identified which addressed several outcomes or products from the use of the modules in two different types of inservice programs. The perceived outcomes or products to be evaluated included changes in participant performance, increased communication between participants and other professionals, and impact of inservice on individual students and programming.

1. To what extent did the participants report spending more time performing the identified competencies following the field test? Following the field testing, the participants reported spending more time performing all except one of the 32 competencies. The relative time spent data tabulated from the post-field test Needs Assessment Instruments identified ten competencies as being performed by the participants at or above the 4.50 level on the 0-7 point relative time spent scale. Prior to the inservice field test, only one competency ("Provide reinforcement and feedback for learning") was being performed above the 4.50 level. Following the field test, the ten competencies

reported as performed most frequently (above the mean level of 4.50) by the participants when working with special needs learners were:

Collaborate with other educators, specialists, and parents in evaluating the learners' needs.	5.276
Utilize small group instructional techniques.	5.207
Plan sequences of instructional units according to the learners' needs.	5.034
Utilize instructional techniques that individualize instruction.	4.931
Provide reinforcement and feedback for learning	4.931
Refer special needs learners to guidance staff and other specialists.	4.690
Utilize laboratory-based, hands-on instruction.	4.655
Design instructional activities or methods appropriate for and effective with special needs learners.	4.621
Formalize a cooperative, team teaching plan for serving special needs learners.	4.586
Develop or adapt a format appropriate for instructional planning.	4.586

There were five competencies which were reported as performed with greater frequency following the field test. These mean differences between the pre- and post-assessment of time spent performing these competencies was greater than 1.50, and may have reflected the impact of the modules. These competencies and the mean differences are presented below:

Formalize a cooperative team teaching plan for serving special needs learners.	2.138
Design instructional activities appropriate for and effective with special needs learners.	1.931
Develop a learning prescription for a special needs student, describing optimum conditions and media for instruction.	1.758
Select or develop instructional materials which are appropriate for different special needs learners.	1.621

Collaborate with other educators, specialists, and
parents in evaluating the learners' educational needs. 1.586

The one competency on which less time was reported (after instruction) as being spent was "Identify occupations and clusters of occupations." Apparently Module 4, which focused on occupational cluster and instructional content analysis, provided the participants with some meaningful information in the area of identification of clusters which caused them to spend less time on this program development task.

2. How do the field test participants and a panel of experts view the general worth of the inservice experiences provided by the modules? The participants and the ERT provided comments and supporting evidence indicating that the inservice experiences generated were extremely beneficial, practical, and worthwhile.

The teacher portrayals (Appendix R) and participant logs provided over 100 comments reflecting positively on the modules and/or the related inservice experiences. The forms used by teachers and coordinators in the instructional development process (e.g. learner profiles, instructional modules, and others) were considered the most useful part of the modules. As one participant phrased it, "The forms are extremely valuable tools."

One participant, who supervises the teacher/coordinators at his high school, requested permission to duplicate the Learner Analysis Profile and the completed example from Module 1 and shared it with his staff in an inservice meeting. During and following the field testing, six other participants also requested permission from the director to duplicate quantities of the forms. A number of participants indicated that they had modified the form or forms in some way to make them usable in their specific instructional program. This "personalization" of the module materials was viewed by the director as a very positive indication of overall impact and value of the modules.

In addition to the forms presented in the modules, the multiple comments by the participants reflected on the improved structure, organization, and efficiency fostered by the modules. Other comments touched upon the quality and depth of information provided, and the insight into and awareness of individual learner problems gained by using the modules. A number of participant comments were also reflective of the perceived future use of the modules, and the impact of several of the concepts and instructional practices on their current teaching, as well as on the practices of other staff members. A representative sampling of some of the more powerful comments is provided below:

> I feel Module 1 should be used with all special education students . . . this would be time consuming but of definite value.

> At present I plan to do this [Career Cluster Analysis] for every student who is currently placed on-the-job.

> I intend to continue the methods I've started in this class and hope to try out some of the other ideas later as I have time.

> Having forms to compile and organize information such as school and community resources I considered valuable.

> The inservice experiences in Modules 4 and 5 would be a considerable help in aiding efficiency and organization of my classroom instruction.

> I think the best thing I can say about the course is that I'm going to use the information I obtained.

> A valuable set of tools for working with special needs students.

> Very worthwhile—it has been most helpful to me in working with special needs students.

> I thought it was quite good and indepth enough to be useful.

Two items on the Illinois Course Evaluation Questionnaire, which was completed by 25 of the 29 participants following the field testing, supported the overall positive reaction. At Sites A and B, the mean responses to "Overall, the course was good" were 3.63 and 3.67 respectively. A 1-4 point "strongly disagree-strongly agree" scale was used. Another item, "Not much was gained by taking this course," which used a reverse scale, had even more strongly supportive mean ratings of 3.68 and 3.83 from the Site A and B participants.

The major negative reaction to the field test course and modules appeared to be a concern for finding the time to carry out the suggested instructional development activities. Selected participants offered this concern on nearly every module evaluation or repeatedly included it in their logs.

The ERT provided several indicators suggesting that the module-related inservice experiences were valuable. Three of the ERT members who currently are developing either inservice or preservice teacher education programs in this field wrote to the director requesting permission to duplicate and use selected parts of one or more modules. These requests were for permission to include the materials in other teacher training materials. One local director of a special needs program at an area vocational center in Michigan wrote:

> Many of the things you have put together here are what I have been attempting to do in a very disorganized and painfully slow way. The material is presented in a very well organized manner without the 'intellectual verbiage' which confuses and turns off most of the daily practitioners. Would it be possible for me to reproduce your forms and use them in developing student profiles and individualized prescriptions for our students?

A request was also received from two state department of education specialists who served on the ERT to develop a preliminary statement for an inservice contract for FY 1977. It was requested specifically that the statement focus on an inservice program using the modules as the principal instructional content.

Formal evaluations of the general worth of the modules as a series were not solicited from the ERT. However, a number of positive comments were reported by the ERT members when they reviewed and critiqued selected modules. These comments were reflected in the Internal Data - Expert Review sections of the micro-analyses.

3. To what extent did the modules facilitate professional communication, and what were the perceived problems or benefits? The response to question one in this section noted that the level of reported communication between the field test participants and other local educational agency personnel had increased substantially following the inservice field test. The participants reported spending relatively high amounts of time collaborating with other educators, parents, and specialists for purposes of referral, evaluation of learner needs, and the formalization of team teaching plans. A number of participant and observer comments from the logs and teacher portrayals outlined the types and extent of communication that occurred as a result of the inservice field test. The following is a sampling of these comments:

> Ellen [special education teacher] gave me an idea to try with Victor. Mrs. P. from the reading lab and John G., the school psychologist, were also consulted.

> I've gone out to see Mr. F. at [High School X] and we spent half an hour discussing Joe and what we can do. [Comment from a vocational education teacher at an area vocational center.]

> We've made arrangements with the other teachers here at the area vocational center who are using the modules to meet after school each Tuesday to discuss information pertaining to the modules and help each other out as much as possible.

> Within the last week, I've had a counselor conference with Ms. O. and a reading conference with Ms. M. to discuss the problems of my student.

> Sandy M. sent me a letter on Tim A. [special needs student] giving times when she is in the building and can provide help for him. She also enlarges the type on his tests for his ease of reading.

> I feel I have learned a great deal from the high school teachers about the programs available to students. I can now better guide the junior high students—especially the 9th graders registering for high school. [Comment from a special education teacher at Site B.]

> When the five teachers from Y High School met, we could not totally agree upon exactly what we were going to do. We discussed implementing several modules and how we should go about getting organized. We decided to meet in Room 26 every Tuesday at 3:30 p.m. [Comment from Site A participant.]

> Getting into small groups after the general discussion gives us a better opportunity to go over any specific problems we have. [Comment from Site B participant.]

The logs submitted during the early part of the field testing reflected several concerns relative to communication with other professionals. The participants appeared somewhat apprehensive at first because they did not personally know the individuals they were to contact, and because they were uncertain as to exactly what could be discussed when the communication was initiated. Several of the participants at Site A also expressed concern about "burdening" other staff members and special services personnel who were not participating in the inservice program.

At the conclusion of the field testing, however, it appeared that the majority of the participants had contacted someone or several persons from another curricular area (e.g. vocational education, special education, remedial education) to seek assistance for the special needs learners they had identified. The majority of the reported communications were individual conferences. As reflected in the foregoing comments, a number of larger meetings were also held. Written and telephone communications were also reported. The reported communications involved meetings: (1) by curricular area (e.g. vocational staff at an area vocational center); (2) between high school and junior high personnel; (3) between school personnel and special services agency personnel (e.g. vocational rehabilitation counselors); (4) between vocational teachers and special education consultants (e.g. consultants for visually handicapped and reading) at the district level; and (5) between the participants and nonparticipating vocational and special education personnel, counselors, and administrators at both sites. Approximately 50% of the reported communications involved contact with individuals not enrolled in the field test inservice program. About 50% of these were contacts with individuals outside of the building(s) in which the participant worked.

For the most part, the communication which was initiated resulted in some form of positive outcome. There were also some problems or difficulties, but the reported problems were considerably fewer in number, but nevertheless severe. The primary problem appeared to be finding the time to communicate. The difficulties associated with finding sufficient time and scheduling meetings were pointed out repeatedly in the micro-analyses.

Once the communication linkages were established, two other problems were reported. One participant noted this problem after he had met with other team members, "There is a definite feeling on the part of the team that they are bogged down with paperwork—and I'll have to agree." The second problem which was mentioned in the logs of three different participants, focused on the professional issue of responsibility. As one participant noted, "There's not a whole lot of interaction because, let's face it, I'm paid to do my own job and they are too." Although the participants did not openly state any opposition to working cooperatively, it appeared that several were concerned about the extensiveness of the cooperative effort. More specifically, it was apparent that some of the participants considered themselves solely responsible for teaching their subject matter content and were not sincerely interested in the cooperative teaching approach. This observation was based on the repeated questioning of the rationale for cooperation which came from about 5% of the participants.

Several comments presented in the micro-analyses and teacher portrayals cited the benefits of cooperative involvement in the inservice experiences.

> I liked the idea of working with Sandy and the mutual arrangement of working with a student. I don't feel like I'm stranded with a student when a lot of problems arise.

> I feel I needed the motivation of the total group interaction [structured class discussions at Site B] to work through the modules. The size of the modules seemed overwhelming. . .

> It is helpful and encouraging to know I will have the help and support of Sandy, Kathy, and George regarding Michelle. I feel this course and the modules encouraged teachers to look closer at the needs of individual students. . . and motivated teachers to make an extra effort.

> The Learner Analysis Profile [designed to be filled out by a team] would have been valuable in a particular instance where one of our students had a job with a publishing firm in the shipping department. He eventually lost the job after costing the company quite a bit of money due to his limited reading ability. Here, a form such as the profile would have helped identify the weakness long ago. [Comment from a vocational teacher/coordinator.]

> Two heads are always better than one (unless they're bumping up against one another). The best thing about this workshop is the opportunity to share problems and bounce ideas around for their possible solution. Then, provided the ideas worked, the group develops a feeling of accomplishment, i.e., 'a kid's life is now more meaningful for him.

4. To what extent were the module inservice experiences focused on individual special needs learners or local program needs? Nearly all of the inservice products submitted by the participants at both sites were developed to facilitate programming for special needs students whom the teachers had enrolled in their classes at the time of the inservice field test. The names of the students for which programming was being developed were reported on the Cooperative Instructional Arrangement form which was in the first module tested at both sites. The micro-analysis of this module revealed that all 29 of the participants identified at least one student for whom they planned to develop a prescriptive program. At Site A, the independent module selection site, two participants identified two students, three participants identified three students, and one participant identified four students using the Cooperative Instructional Arrangement form. The number of students identified did not appear to influence the number of inservice experiences completed in the modules or the quality of the inservice products. The participants responded very favorably to this "applied approach" to becoming familiar with the content of the modules.

By focusing the inservice products from different modules on specific students, the participants appeared to feel that they had: increased their awareness of the individual needs of students, kept close track of the progress made by students, and developed some new feelings and insights. The following are a series of observations reported by the participants describing the students they had identified for the purpose of applying the instructional content of the modules.

> I am very pleased with the progress of both girls. I am especially pleased with the attitude change in Serena. She wants to work at a much faster pace now. The conference with her parents was a real eye-opener! . . . Tammy senses that I'm doing some kind of study on her and she seems to be encouraged by the extra attention. Last week she signed up for another semester with me, so I'll have a chance to continue my work with her.

> It is interesting to see how some teachers cue in on strengths which others overlook. Dawn (special education teacher) and I pretty much agreed on most aspects [of the learner profile]. The coach saw some real potential and ability in Jimmy that Dawn and I hadn't known about which was exciting.

> After working through the module, I feel I understand Kevin's problems and needs a little better, also his strong areas.

> Sue hasn't missed a day since we talked last week.

> Progress of both students is slow, but they are much improved in attitude. These students are 'classic' examples of the neglected student who can be helped.

Initially, some of the vocational education participants encountered difficulty in attempting to identify a student because they were uneasy about making a selection. One contended that all of his students had special needs.

It appeared that unless a student was already known to them as a "special education" student, vocational educators tended to feel a need for more information indicating what significant special needs a learner had before making a selection.

Several instances of adaption or modification of the module forms were reported in the follow-up portrayals, suggesting that some participants had adapted the materials for use in their instructional planning. The adaptations were reported by both junior and senior high school personnel at both sites. The most frequently mentioned modifications were the adding of one or two sections to a form, or the changing of the title of a certain section of the form. Comments were also cited in the participant logs suggesting that specific forms could be used readily by other members of their special or vocational education staffs. One participant remarked, "The form in the module is more usable than the one we have now."

In some instances, the participants appeared to accept the basic process for developing an inservice product but to modify it to fit their situation. This was demonstrated by two special education teachers at Site A, who used the basic forms from Module 4 for identifying the occupations and tasks in a cluster, but described two modified and unique processes for deriving the information for the form.

5. To what extent are different groups of educators receptive to this series of modules? It is difficult to draw any solid conclusions to this question because only six of the 29 participants were employed as special education staff. The balance were vocational education personnel. However, these six were among the participants more actively involved in the inservice field test.

There were no noticeable differences in the reception of the modules by the vocational or special educators participating in the field test. Both groups appeared to understand and interpret the content of the modules without major difficulty. The micro-analyses noted that in selected modules, some of the terminology was unclear to the different groups, but it did not appear to limit seriously the usability of the modules. There were no major differences in the number of inservice products submitted by these two groups.

Of the six special educators who participated, three had responsibilities as resource room teachers and were working with other staff in their building. These individuals appeared to be already familiar with the techniques and problems of cooperative teaching. Two appeared to have worked closely with vocational teachers in their building prior to the inservice field test. In two participant-observer reports, it was noted that the comments and suggestions offered by these two resource room teachers appeared to be helpful to the participants. The participant-observer noted that the comments seemed to be especially helpful when the vocational teachers questioned whether or not a cooperative teaching relationship could be established in their situation.

As noted in response to an earlier question, the cooperative teaching theme that was included in the modules appeared to have mixed acceptance during the inservice field test. The participant-observer noted in the teacher portrayals, "During and after the field testing, I felt that many teachers were not at ease in asking for help with teaching one of their students." This hesitancy was somewhat more noticeable among the vocational education personnel than the special education participants. It is not fair, however, to generalize this statement to all of the vocational education participants because the three who were presented in the teacher portrayals did not appear to be hesitant about entering into cooperative teaching ventures.

Also, following the field testing, the reported time spent by vocational education staff on the instructional practices involving cooperation was substantially higher than it was before the inservice field test began.

V. SUMMARY AND RECOMMENDATIONS

Structure of the Investigation

The purpose of this study was to conduct a detailed formative evaluation of a series of seven competency-based inservice modules and to suggest necessary and appropriate revisions to the modules based on the resultant data analysis. The modules which were field tested and evaluated were designed for use by currently employed vocational and special educators. The topics included in the module series focused on instructional development and on coordination of services and programming for special needs students in secondary school programs.

A modified version of the Sanders and Cunningham (1972) model for the formative evaluation of educational products was used. A series of major questions was developed which addressed evaluation of the competencies included in the modules, formative interim evaluation, and product/outcome evaluation.

Evaluative information was gathered from six separate sources: a panel of experts, the field test participants, local program administrators, relevant documents, participant-observers, and the products developed by the field test participants. These information sources represented internal, external, and contextual considerations of both the modules and the two inservice teacher education approaches used to field test the modules.

A total of 29 vocational and special education teachers and teacher/coordinators participated in the field testing which was conducted over a 12 week period in two large school districts in east central Illinois. At one site, the complete series of modules was used as the basic instructional content in an off-campus graduate course. At the other site, participants were enrolled in the same graduate course, but were permitted to select the modules they felt were most appropriate to their instructional development needs. The participants at the latter site worked individually or in small groups (teams) to complete the selected modules.

The formative evaluation data were analyzed at three levels. A micro-analysis was completed for each of the seven modules. These micro-analyses of data from internal, external, and contextual sources generated a series of suggested modifications or revisions for each module. The second level, macro-analysis, synthesized the suggested modifications from each micro-analysis and provided suggestions for the improvement of format, sequence, and content continuity across all modules. The third level analysis, the evaluative outcome analysis, provided a more global assessment of the module series and of selected aspects of the delivery systems used in the inservice field test.

Evaluative Outcomes

Evaluative outcomes were identified in three areas: evaluation of the preliminary competencies, interim formative evaluation, and product/outcome evaluation.

Evaluation of Preliminary Competencies. All of the 32 competencies which were identified as the basis for specifying instructional content appeared to range in criticality between "important" and "extremely critical." The Expert Review Team (ERT) noted 21 of the competencies as being closer to the level of "extremely critical" than to the level of "important" for the vocational programming of special needs students.

When the criticality data were analyzed by personnel groups, it was noted that the instructional planning competencies included in Module 5 were considered the most important for vocational teachers. The instructional planning competencies were also cited as important for special education teachers and/or consultants along with competencies in the areas of implementing instruction (Module 6) and evaluating learner progress (Module 7). Competencies pertaining to implementing instruction, evaluating learner progress, and identifying and utilizing school and community resources (Module 3) were identified as most important for cooperative and work-study coordinators.

When the field test participants were asked to indicate the relative amount of time they spent performing these competencies, several trends were noted. Junior high school or middle school personnel reported spending considerably more time on identification and analysis of learner needs, and working cooperatively with other teachers or supportive services personnel than did comprehensive high school and area vocational center personnel. Personnel from each of these three groups spent a considerable amount of time providing reinforcement and feedback for special needs learners and relatively little time planning and coordinating work experience programs. Comprehensive high school and area vocational center personnel more frequently used performance evaluation measures and performance profiles. These two groups were also more frequently involved in learner follow-up studies than were junior high and middle school personnel.

A number of additional competencies were recommended for inclusion in the modules by the ERT. However, none were accepted for reasons of overlapping with other competencies, limited relevance to the topic of instructional development, or inappropriateness for the inservice module format.

Prior to the inservice field test, the prospective participants were asked to identify the competencies about which they wished to know more. It seemed apparent that there were several competencies in which they were uninterested, viewed as unimportant, or felt they had adequate competence. These included: "Assisting students in obtaining work permits;" "Using advisory committees;"

"Specifying career-related instructional programs;" "Conducting community needs surveys;" and "Identifying and utilizing supportive services."

Developmental Formative Evaluation. Data from the field test participants and ERT reflected a positive acceptance of the module format. The participants felt the course content was excellent and the course material seemed worthwhile and not too difficult.

The supportive information and content of the modules was found to be very appropriate for providing the participants with the identified competencies. The basic elements of the modules were considered practical and usable by the participants, and most parts of the instructional development model implicit in the modules were considered readily implementable by the participants. However, the implementation of the cooperative involvement dimension of the model appeared to be hampered by a number of professional and contextual constraints, especially at the high school level.

Overall, it appeared that both inservice approaches used in the field testing were considered effective by the participants. The instructional approach used at both sites was evaluated quite favorably when compared to other University of Illinois graduate courses taught off-campus, but using a conventional text-lecture-discussion approach.

The estimates and actual times reported for completion of the different modules indicated that, on the average, 9.0 hours were required to complete a module. Module 3, Instructional Resources, appeared to require the greatest average amount of time (14.7 hours), while Module 2, Cooperative Instructional Arrangements, generally required the least (4.4 hours).

The ERT was asked to consider several prospective inservice uses of the modules, and the appropriateness of certain incentives for using the modules. The two inservice uses for which the individual modules were clearly rated above the other suggested uses were local district workshops and regional (within state) workshops, with the former being rated above the latter. "Released time for participation in inservice" was considered the most appropriate incentive to be used in combination with local or regional workshops.

Product/Outcome Evaluation. Following the inservice field test, the participants reported spending more time performing all except one of the 32 instructional development competencies. Those competencies which reflected the largest increases in reported time spent involved formalizing cooperative team teaching plans, designing appropriate instructional activities, and developing learning prescriptions for special needs learners. Ten competencies which focused on evaluation of learner needs and specific instructional planning were the most frequently performed.

The inservice experiences generated by the modules were considered by the participants and the ERT to be extremely beneficial, practical, and worthwhile. Over 100 comments reflecting positively on the modules and/or the related inservice experiences were noted in the participant logs and teacher portrayals. The forms for instructional development were cited as the most valuable part of the modules. Requests for permission to duplicate and/or use selected parts of the modules were received from four ERT members.

The level of reported communication between the participants and other local educational agency personnel increased substantially following the inservice field test. It appeared that the number of personal, written, and telephone communications between personnel regarding special needs learners increased among in-school personnel, as well as between school personnel and personnel from community agencies and organizations. Approximately 50% of the reported communications involved contact among the participants and 50% with other individuals not participating in the inservice field test. Two problems were also apparent in the communications and cooperation initiated as a result of the field testing of the modules. The additional paperwork required of the participants as part of their daily routine, and the feeling that each professional had clear individual responsibilities which should not be shared appeared to inhibit the cooperative involvement of some participants.

Nearly all of the inservice products submitted at both sites were developed to facilitate programming for special needs students whom the participants had enrolled in their classes at the time of the inservice field test. By applying the content of the modules to specific special needs students, the participants appeared to feel that they had: increased their awareness of the individual needs of students; kept close track of the progress made by students; and developed some new feelings and insights regarding each student. Also, several instances of adaption or modification of the forms or processes presented in the modules were reported, indicating that the participants felt the module content had an immediate and meaningful use in their daily instructional development activities.

There were no noticeable differences in the reception of the modules by the vocational or special educators participating in the inservice field test. Both groups appeared to understand, interpret, accept, and use the content of the modules without major difficulty.

Utilization of the Formative Evaluation Information

The evaluative information generated from the three analyses used in this study was utilized by the director in making modifications in the modules. Those suggested modifications presented in the micro-analyses which focused on content considerations in each of the modules were adopted. Most of the recommendations offered for expansion, clarification, addition, or deletion of the competencies and/or content were considered to be appropriate and essential, and were adopted.

A number of format, supplemental, and sequential modifications were adopted from the macro-analysis. The principal format modification which was adopted for the module series involved relocating the self-evaluation checklists so that they directly followed the inservice experience to which they pertained. Completion of the self-evaluation checklist and directions to enable the user to revise his or her product based on the results of the self check were incorporated as the final procedures for each inservice experience. In the field test editions of the modules, the individual checklists for all inservice experiences had been placed at the end of the module, which did not provide the opportunity for immediate feedback to the user.

The supplemental modifications adopted from the macro-analysis included: (1) adding brief case studies to each of the introduction sections of the modules; (2) providing completed examples of the instructional development forms for each of the different audiences, i.e. high school and junior high personnel and vocational and special educators working in different program areas; (3) limiting the amount of technical content and referring the user to other documents where pertinent discussions or resource materials on the topic are presented; (4) limiting the use of technical terminology which was unfamiliar to certain audiences; (5) minimizing the use of unnecessarily sophisticated language in selected modules; and (6) describing and emphasizing the relationship of the instructional development processes within and across the modules.

Case studies depicting the importance of the module content in working with special needs learners were included in the introductory sections of each module. The cases cited used data describing the special needs students identified and treated by the participants during the field testing.

Several completed examples (instead of one) of the instructional development forms were included in the revised modules. Again, the additional example forms were selected from those submitted by the participants during the field test.

The use of sophisticated and technical language was carefully checked in the revision of the modules. Selected field test participants and Expert Review Team members were asked to review critically the revised versions of the modules for language usage. A glossary including illustrative examples of key terminology was added to the Learner Identification and Analysis module.

A segment of the introduction and rationale section of each module was devoted to describing the specific relationships of the inservice experiences within the module. Another segment of the introduction and rationale section indicated which of the other modules in the series were considered prerequisites for the module under consideration and why.

The modules were also resequenced following the macro-analysis. The adjustment of the sequence also modified, to some extent, the implicit instructional development model represented by the modules. The original module sequence which provided the basic framework for the inservice field test was as follows:

Module 1A: Cooperative Instructional Arrangements
Module 1: Instructional Resources
Module 2: Learner Identification and Analysis
Module 3: Cluster and Content Analysis
Module 4: Instructional Planning
Module 5: Instructional Implementation
Module 6: Evaluation of Learner Progress

During the initial sessions of the inservice field test, it became apparent that there was a major problem with this sequence. Initially, the participants were asked to identify a special needs student with whom they were working, and to develop a cooperative instructional arrangement based on the school placement of this learner. The cooperatvie arrangement would then become the facilitating vehicle for completing the remaining modules. The vocational teachers and coordinators who comprised 78% of the participants found it difficult to formally identify a special needs learner because they were unfamiliar with the processes of referral and identification of specific learning problems. It was suggested by several participants during the course of the field test that if the focus of the modules is on providing individualized, prescriptive instruction, the first task ought to be accurate identification and careful assessment of the needs of the individual student. Once this analysis is made, the remaining modules can be focused on cooperative involvement and instructional development to address the identified needs of the learner. This logic and rationale provided the basis for adoption of the revised sequence presented below:

Module 1: Learner Identification and Analysis
Module 2: Cooperative Instructional Arrangements
Module 3: Instructional Resources
Module 4: Cluster and Content Analysis
Module 5: Instructional Planning
Module 6: Instructional Implementation
Module 7: Evaluation of Learner Progress

Data from the evaluative outcome analysis were utilized in the development of a brief overview and utilization document for the module series. A plan for dissemination of the modules and overview document was also prepared based, in part, on the evaluative outcome analysis.

The overview and utilization document included a description of the content, format, and suggested guidelines for using the modules. In addition, a description of the implicit instructional development model and a brief summary of the formative field test evaluation report were included.

Data from the evaluative outcome anlaysis were helpful in developing guidelines for use of the modules by local educational agency personnel, as well as teacher training personnel. The guidelines included in the overview and utilization document: (1) identified the appropriate modules and inservice experiences for specific audiences; (2) provided a strategy whereby prospective users or trainers could select the appropriate module(s) for inservice based on a self-conducted needs assessment; (3) identified potential barriers in implementing the implicit instructional development model; (4) contrasted the independent and small group inservice uses of the modules with an off-campus graduate course; (5) outlined other inservice delivery systems in which the modules could be used; and (6) identified the optimum time frame required for completion of each module.

Input for a dissemination plan was generated also from the evaluative outcome analysis. The ERT members' suggestions with regard to other types of appropriate inservice delivery systems were helpful in considering possible dissemination strategies. The data describing the optimum time frames for completion of the modules and the appropriateness of the modules for different groups of educators were also helpful. A brief plan for dissemination of the modules, based on these and other considerations, was developed and submitted to the funding agency.

Discussion and Recommendations

It was noted in Chapter II that formative evaluation studies seldom reflect upon the processes involved in formative evaluation. The purpose of this final section is to identify and discuss a series of recommendations for product developers and inservice trainers based on the outcomes of this study.

1. Developers of teacher education materials can field test and evaluate their materials effectively if certain precautions are taken to guard against developer bias. This recommendation is contrary to the belief of Popham and Baker (1971) that developers who are also involved in the collection of data may tend to draw inappropriate inferences from the data. To guard against developer bias, the developer/evaluator should make inferences regarding revision from criterion data, check for cross validation of revision data from different sources, use different field test strategies, commission external evaluative input, use trained participant-observers in the field testing, and appeal to the field test participants for objective and extensive evaluation. If these precautions are taken, developer bias should be reduced and external evaluators have additional data against which to judge the developer bias which remains.
2. To provide for maximum efficiency in the product development process, components or sections of the product can be developed and evaluated in phases. Considerable time savings can result if pilot review data on the format and basic organization of one or two sections can be obtained and analyzed before the remaining sections are developed.
3. The development and field testing of component sections or units of an instructional product can provide for the discovery of unexpected, productive uses of the material. It is recommended that the participants in some aspect of the field test be permitted to select and use the component sections independently. A description of "how" the materials can be used effectively can be generated more readily after observation of the participants' use of the product under various conditions.

4. Both technical and subject matter experts should review instructional products in their early formative state. The selection of reviewers should be based on their knowledge, demonstrated expertise, and ability and willingness to provide meticulous, detailed reviews. Appropriate incentives for completion of the reviews, such as recognition in the final product or copies of the interim and final products, should be offered by the developer. The subject matter experts should represent both the primary and secondary users of the modules.
5. When instructional products are developed in units or sections, the formative evaluation decisions should be focused on the lowest, common level of organization of the instructional material, e.g. module, unit, or objective. This practice will guard against the possibility of drawing incorrect inferences about the effectiveness of the total product when one or two subsections fall below the overall criterion level and are in need of revision. This concern relative to the formative evaluation decision process has been noted elsewhere by Epstein (1975) in his work on evaluation of audio-visual materials for the military.
6. The use of informal, participant initiated reports, such as participant logs (Appendix O), provided an extremely valuable source of formative evaluation data. User perceptions of the interactions between the product and the environment in which implementation is to occur provided a major source of suggestions for improvement of the modules evaluated in this study.
7. The extent of modification decisions relative to component sections or the total product and the assurance which the developer feels regarding the desirability of modification are

based, in part, on the scope of the formative evaluation. The amount of instructional time, frequency of use by the field test participants, and the extensiveness of product evaluations by participants and expert reviewers are recommended measures of scope. The number of field test participants and expert reviewers utilized will depend, in part, upon project resources and the timeline for completion; however, as Popham and Baker (1971) suggest, extremely large or small numbers should be avoided. The use of 30 participants and 30 expert reviewers was considered adequate for this project.

8. The development of specific, meaningful products by the user(s) of inservice education materials can facilitate effective inservice learning experiences. The development of such products as community resource inventories, individual student learning prescriptions, or instructional plans can provide for small group or team involvement and facilitate communication between and among different inservice target audiences. Product development also provided for an immediate application of the concepts and information presented. In addition, as Steele (1974), Popham and Baker (1971), and others have noted, the development of learner products generated from inservice materials provides an excellent data source for revision of the inservice materials.
9. If inservice users are to develop and use instructional products from the materials, the products must be perceived as meaningful by the user, adaptable and "personalizable," and efficient to use (relative to other procedures known by the user).
10. Written materials used in inservice teacher education should be concise, efficiently organized, and include practical guidelines, technical aids, completed examples of products to be developed or adapted,

references for additional information, and case studies depicting applications of the guidelines and procedures in a variety of situations.

11. Inservice teacher education materials that are designed for individual or small group use should foster a range of involvement with other professionals. The cooperative involvement of educators in addressing educational issues or problems at a district, building, or individual student level can facilitate a satisfying and more readily acceptable resolution of the problem for all parties concerned. But different degrees of cooperation are possible, depending on personal and organizational constraints. Complete cooperation can seldom be practiced.

Suggestions for Further Research, Development, and Evaluation

A number of considerations for additional developmental, evaluation, and research activities have been generated by this study.

1. The inservice teacher education modules developed and evaluated in this project should be further field tested under the direction of other teacher trainers in other settings and revised as necessary.
2. The modules could be used as a common treatment to investigate a variety of other variables associated with the use of module-based inservice materials. Some variables deserving further study include:
    a. The differences in effectiveness of group and individual use of the modules.
    b. The differences in characteristics of users and nonusers.
    c. The differences in effectiveness of selected types of locally-directed inservice uses of the modules.
    d. The differences in effectiveness of selected types of teacher trainer-directed uses of the modules.

e. The differences in the perceived worth of selected module format elements, e.g. guidelines/suggestions for development, instructional development forms, or example documents, by different user groups employed in different educational settings.

f. The differences in the effectiveness of cooperative teaching activities generated by the modules between different user groups employed in different educational settings.

g. The differences in achievement levels of special needs students of instructional personnel who have used and those who have not used the modules.

3. The completion of an exploratory study to determine the appropriate strategies for infusing the content of the modules in ongoing or new preservice vocational and special teacher education programs is highly recommended.
4. The development, tryout, and formative evaluation of a companion inservice trainer's manual would facilitate the use of the modules in local educational agencies by leadership personnel and teacher trainers.
5. The development, tryout, and formative evaluation of audio-visual media and supplemental resource documents providing additional resource information, example documents, and instructional development forms would facilitate utilization of the modules.
6. The development and formative evaluation of additional inservice modules focusing on vocational counseling and other services instrumental to the career development of special needs individuals would complement the emphasis on instructional development in the existing modules.

7. The development and formative evaluation of additional inservice modules or materials focusing on program planning, management, and evaluation would provide for the development and delivery of expanded programs and services for special needs learners in local educational agencies.

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College of Education
**DEPARTMENT OF VOCATIONAL
AND TECHNICAL EDUCATION**

345 Education Building
Urbana, Illinois 61801
(217) 333-0807

July 29, 1975

Dear

The Vocational and Technical Education Department at the University of Illinois has recently received a grant to develop and evaluate a set of inservice materials for use by vocational and special education teachers. The materials will focus upon a process of cooperative instructional planning for vocational and special education teachers to better meet the needs of handicapped and disadvantaged students.

Throughout this project we will need the advice and assistance of a group of experts. We would like to invite you to participate as a member of this group. The group will include both vocational and special educators from several states, and involve teachers, counselors, consultants, co-op and work study coordinators, as well as teacher educators, researchers, and state office personnel. Those individuals we have selected, along with yourself, have had considerable experience in planning and providing vocational education for special needs students. Enclosed is an abstract of the project which will give you a detailed overview of the project.

The first question we are attempting to address is: what are the skills (competencies) needed by vocational and special educators as they plan, implement, and evaluate effective instructional programs? The enclosed questionnaire is designed to get your reactions to a number of competencies we have tentatively identified. The directions for completing the questionnaire are provided on the cover page. If possible, please complete this questionnaire and return it by August 15, 1975.

Your cooperation and participation in this project through the months ahead will be greatly appreciated. Your critical evaluation of these competencies will provide a basis from which to develop the inservice materials. In the coming months, we will be asking you to review and critique each of the modules as they are written. Eventually, the time and effort you devote to this effort will lead to improved programs and services for handicapped and disadvantaged students served by the public schools. Thank you for your cooperation and support.

Sincerely,

L. Allen Phelps
Principal Investigator

Enclosure

APPENDIX D

COMPETENCY QUESTIONNAIRE I

OFFICE USE
ONLY

ID No. ______

COMPETENCY QUESTIONNAIRE

PURPOSE: This questionnaire is intended to determine what you feel are the important skills (competencies) secondary school personnel (teachers and others) should have for planning, implementing, and evaluating career education instruction for handicapped and disadvantaged (special needs) students. This questionnaire is not intended to assess your skills, or the skills of teachers you work with or have observed, but rather to determine what you feel are the critical competencies for individuals working in this field.

DIRECTIONS: On the following pages, several competency statements are listed along with four scales. On each scale, rate the importance of the competency for: (1) vocational teachers, (2) special education teachers and consultants, (3) counselors of special needs students, and (4) co-op or work study coordinators. In other words, how important or critical is it for a person who works in the identified role to perform the stated competency? The degrees of importance (1 through 5) are described below in the competency rating code. Remember also, this questionnaire pertains to providing effective instruction and supportive services for handicapped and disadvantaged students at the secondary level only.

Before returning your completed questionnaire, check the form and make sure you have circled a rating number on each of the four scales for all of the competencies. Thank you very much for your time.

COMPETENCY RATING CODE:

1 - Unimportant - Neither mastery nor failure to master this competency is critical to providing instruction and/or supportive services for special needs students in vocational and career-related programs.

3 - Important - Failure to master this competency will result in only marginally (minimally) effective instruction and supportive services.

5 - Extremely Critical - Failure to master this competency will result in totally ineffective instruction and supportive services.

EXAMPLE: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

competency no. → 00 *Consult the chamber of commerce to identify area employers to be contacted in a community survey.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	[✓ 4]	5
Special education teachers and/or consultants	1	2	[✓ 3]	4	5
Counselors	1	2	3	[✓ 4]	5
Co-op/work study coordinators	1	2	3	4	[✓ 5]

COMPETENCY QUESTIONNAIRE

ONDITION STATEMENT: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

01 *Identify, coordinate, and utilize a variety of school, community, and governmental agency resources in developing instruction and identifying supportive services.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

02 *Formalize a cooperative arrangement for team teaching by identifying the appropriate career-related and special education programs and/or services for each special needs learner.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

03 *Establish and/or utilize advisory groups effectively in instructional development and program operation.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

04 *Conduct a community needs survey.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

05 *Develop and/or utilize a screening-referral process for special needs students in secondary programs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

06 *Collaborate with other educators, specialists and parents in evaluating the learner's educational needs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

07 *Develop a composite profile of learning characteristics for a group of special needs learners to be served.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

08 *Refer special needs learners to guidance staff and other specialists.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

CONDITION STATEMENT: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

09 *Obtain follow-up data and information on special needs students leaving or graduating from school programs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

10 *Identify occupations and clusters of occupations for which career exploration and/or preparation instruction can and should be provided.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

11 *Specify career-related instructional programs which can provide the relevant, occupational cluster instruction for a special needs learner(s).*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

12 *Conduct an analysis to determine the knowledge concepts, specific job skills, general competencies and standards of performance needed for employment in a given career cluster.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
ecial education teachers d/or consultants	1	2	3	4	5
unselors	1	2	3	4	5
-op/work study ordinators	1	2	3	4	5

13 *Identify modules or units of instruction appropriate for special needs learners.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

14 *Sequence modules or units of instruction according to the learner's needs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

15 *Develop or adopt a format appropriate for instructional planning.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

16 *Develop student performance objectives for instructional modules or units.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

CONDITION STATEMENT: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

17 *Identify the basic aptitudes and competencies (i.e., finger dexterity or sequencing skills) required for employment in a given career.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

18 *Design instructional strategies appropriate for and effective with different special needs learners.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
cational teachers	1	2	3	4	5
ecial education teachers d/or consultants	1	2	3	4	5
unselors	1	2	3	4	5
-op/work study ordinators	1	2	3	4	5

9 *Select or develop instructional materials which are appropriate for different special needs learners.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
cational teachers	1	2	3	4	5
cial education teachers /or consultants	1	2	3	4	5
nselors	1	2	3	4	5
op/work study rdinators	1	2	3	4	5

Identify basic language and quantitative concepts associated with the content of instructional modules or units.

Degree of Competency Importance
(Circle one number on each scale

	Unimportant				*Extremely Critical*
ational teachers	1	2	3	4	5
cial education teachers /or consultants	1	2	3	4	5
selors	1	2	3	4	5
p/work study dinators	1	2	3	4	5

21 *Develop a cooperative teaching strategy (resource or consulting) for instruction in basic concepts and competencies.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

22 *Design a system for monitoring student progress and achievement on a regular basis.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

23 *Aid special needs learners in obtaining work permits.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

24 *Utilize instructional techniques that individualize instruction.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

CONDITION STATEMENT: Given the responsibility to plan, implement, and evaluate career-oriented *instruction for special needs students, secondary school personnel should be able to:*

25 *Utilize small group instructional techniques.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

26 *Utilize peer instruction techniques.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	12	2	3	4	5

27 *Utilize laboratory-based instruction.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
pecial education teachers nd/or consultants	1	2	3	4	5
ounselors	1	2	3	4	5
o-op/work study oordinators	1	2	3	4	5

28 *Manage and adjust as needed, equipment and conditions in the learning environment.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
ocational teachers	1	2	3	4	5
ecial education teachers d/or consultants	1	2	3	4	5
unselors	1	2	3	4	5
-op/work study ordinators	1	2	3	4	5

29 *Provide reinforcement and feedback for learning.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

30 *Structure a filing system for records and report forms.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

31 *Plan and coordinate off-campus or on-campus work experience instruction.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

32 *Use a variety of performance-based techniques for evaluating a student's competencies.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*
Vocational teachers	1	2	3	4	5
Special education teachers and/or consultants	1	2	3	4	5
Counselors	1	2	3	4	5
Co-op/work study coordinators	1	2	3	4	5

APPENDIX E

FOLLOW-UP LETTER TO NONRESPONDENTS

COLLEGE OF EDUCATION · BUREAU OF EDUCATIONAL RESEARCH · 288 EDUCATION BUILDING · URBANA, ILLINOIS 61801
(217) 333-3023

August 19, 1975

Dear Review Team Member:

During the first week in August you received a Competency Questionnaire, asking you to evaluate a set of competencies needed by vocational and special educators in providing vocational education for special needs students.

The cover letter asked that the questionnaire be returned by August 15. Since most educators usually take a vacation in early and mid-August before starting the school year, you may not have seen the questionnaire until after the August 15 date.

Your response to the questionnaire is urgently needed to complete the first phase of the study. Please complete and return the questionnaire by September 1, or as soon thereafter as your schedule permits.

If you have already returned the questionnaire thank you for your prompt reply. If you have not, I will be looking forward to seeing your response. Thank you for your cooperation and assistance.

Sincerely,

L. Allen Phelps

LAP:sl

APPENDIX F

COVER LETTER FOR COMPETENCY QUESTIONNAIRE II

College of Education
DEPARTMENT OF VOCATIONAL
AND TECHNICAL EDUCATION

345 Education Building
Urbana, Illinois 61801
(217) 333-0807

September 26, 1975

Dear Review Team Member:

First, let me express my appreciation for responding to the Competency Questionnaire which you received during August. The results from 27 returned questionnaire forms have been compiled and are presented as part of the enclosed form.

The enclosed form is essentially a follow-up to the first competency questionnaire, and has two purposes:

1. To provide you with the summary results of Questionnaire I.
2. To help us determine more clearly the consensus rating of the Review Team on certain competencies.

The enclosed form, Competency Questionnaire II, lists the average or mean ratings on each of the competencies as well as your responses (circled in green ink). One of the competency statements was deleted because of a low importance rating. You will also notice that clarifying words or phrases (in brackets) have been added to clarify the intended meaning of selected competency statements.

On the enclosed questionnaire we have noted some of your initial ratings with a large red star. On these ratings you will note that your response is significantly different from the group rating. For each of those responses starred in red (of which there are only a few), you are asked to do one of two things:

1. In the space to the right, provide a short statement describing your reason(s) for your original rating.

or

2. Modify your original rating by circling another rating number which reflects your present view. If you choose this alternative, you may want to provide a brief statement describing your rationale for changing your response.

This information will enable us to further delineate the competencies you see as being needed by secondary school personnel in effectively planning, implementing, and evaluating career-related instruction for special needs learners.

Please return the Questionnaire in the return-addressed, stamped envelope by October 15, or as soon thereafter as possible. Thank you for your commitment and continued support.

Sincerely,

L. Allen Phelps

LAP:rty
Enclosure

APPENDIX G

COMPETENCY QUESTIONNAIRE II

OFFICE USE ONLY
Id. No. ______
(for follow-up purposes only)

COMPETENCY QUESTIONNAIRE II

Directions: For those competency ratings marked with a red star, *please do one of the following:* *(1) provide a short, concise statement describing your reason(s) for your initial rating, or (2) modify your original rating by circling another rating which reflects your current view.*

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (*) below.

01 *Identify, coordinate, and utilize a variety of school, community, and governmental agency resources in developing instruction and identifying supportive services.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	3.85
Special education teachers and/or consultants	1	2	3	4	5	4.07
Counselors	1	2	3	4	5	4.19
Co-op/work study coordinators	1	2	3	4	5	4.70

02 *Formalize a cooperative arrangement for team teaching [team teaching plan] by identifying the appropriate career-related and special education programs and/or services for each special needs learner.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.19
Special education teachers and/or consultants	1	2	3	4	5	4.44
Counselors	1	2	3	4	5	3.67
Co-op/work study coordinators	1	2	3	4	5	3.84

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

03 *Establish and/or utilize advisory groups effectively in instructional development and program operation.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.11
Special education teachers and/or consultants	1	2	3	4	5	3.81
Counselors	1	2	3	4	5	3.56
Co-op/work study coordinators	1	2	3	4	5	4.11

04 *Conduct a community needs survey.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	3.52
Special education teachers and/or consultants	1	2	3	4	5	3.22
Counselors	1	2	3	4	5	3.48
Co-op/work study coordinators	1	2	3	4	5	4.74

05 *Develop an/or utilize a screening-referral process for [identification of] special needs students in secondary programs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	3.11
Special education teachers and/or consultants	1	2	3	4	5	4.41
Counselors	1	2	3	4	5	4.22
Co-op/work study coordinators	1	2	3	4	5	3.44

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

06 *Collaborate with other educators, specialists and parents in evaluating the learner's educational needs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.30
Special education teachers and/or consultants	1	2	3	4	5	4.52
Counselors	1	2	3	4	5	4.44
Co-op/work study coordinators	1	2	3	4	5	4.07

08 *Refer special needs learners to guidance staff and other specialists.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.11
Special education teachers and/or consultants	1	2	3	4	5	4.33
Counselors	1	2	3	4	5	4.56
Co-op/work study coordinators	1	2	3	4	5	4.22

09 *Obtain follow-up data and information on special needs students leaving or graduating from school programs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	3.41
Special education teachers and/or consultants	1	2	3	4	5	3.89
Counselors	1	2	3	4	5	4.37
Co-op/work study coordinators	1	2	3	4	5	4.63

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✳) below.

10 *Identify occupations and clusters of occupations for which career exploration and/or preparation instruction can and should be provided.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant 1	2	3	4	*Extremely Critical* 5	Mean Ratings from First Questionnaire
Vocational teachers	1	2	3	4	5	4.15
Special education teachers and/or consultants	1	2	3	4	5	4.48
Counselors	1	2	3	4	5	3.85
Co-op/work study coordinators	1	2	3	4	5	4.59

11 *Specify career-related instructional programs which can provide the relevant, occupational cluster instruction for a special needs learner(s).*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant 1	2	3	4	*Extremely Critical* 5	Mean Ratings from First Questionnaire
Vocational teachers	1	2	3	4	5	4.22
Special education teachers and/or consultants	1	2	3	4	5	4.44
Counselors	1	2	3	4	5	4.00
Co-op/work study coordinators	1	2	3	4	5	4.26

12 *Conduct an analysis to determine the knowledge concepts, specific job skills, general competencies and standards of performance needed for employment in a given career cluster.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant 1	2	3	4	*Extremely Critical* 5	Mean Ratings from First Questionnaire
Vocational teachers	1	2	3	4	5	4.33
Special education teachers and/or consultants	1	2	3	4	5	4.15
Counselors	1	2	3	4	5	3.70
Co-op/work study coordinators	1	2	3	4	5	4.37

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*	*Mean Ratings from First Questionnaire*	*Brief rationale statement for your rating of the competencies which are starred (⁎) below.*

13 *Identify modules or units of instruction appropriate for special needs learners.*

Degree of Competency Importante
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.62
Special education teachers and/or consultants	1	2	3	4	5	4.78
Counselors	1	2	3	4	5	3.44
Co-op/work study coordinators	1	2	3	4	5	3.74

14 *[Plan a]: Sequence [of] modules or units of instruction according to the learner's needs.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.74
Special education teachers and/or consultants	1	2	3	4	5	4.81
Counselors	1	2	3	4	5	3.04
Co-op/work study coordinators	1	2	3	4	5	3.52

15 *Develop or adapt a format appropriate for instructional planning [e.g., unit plans].*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.56
Special education teachers and/or consultants	1	2	3	4	5	4.60
Counselors	1	2	3	4	5	3.30
Co-op/work study coordinators	1	2	3	4	5	3.48

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

16 *Develop student performance objectives for instructional modules or units.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.63
Special education teachers and/or consultants	1	2	3	4	5	4.70
Counselors	1	2	3	4	5	2.89
Co-op/work study coordinators	1	2	3	4	5	3.74

17 *Identify the basic aptitudes and competencies (i.e., finger dexterity or sequencing skills) required for employment in a given career.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.15
Special education teachers and/or consultants	1	2	3	4	5	4.30
Counselors	1	2	3	4	5	3.96
Co-op/work study coordinators	1	2	3	4	5	4.15

18 *Design instructional strategies (activities or methods) appropriate for and effective with different special needs learners.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.74
Special education teachers and/or consultants	1	2	3	4	5	4.96
Counselors	1	2	3	4	5	2.96
Co-op/work study coordinators	1	2	3	4	5	3.70

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

19 *Select or develop instructional materials which are appropriate for different special needs learners.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.81
Special education teachers and/or consultants	1	2	3	4	5	4.96
Counselors	1	2	3	4	5	2.89
Co-op/work study coordinators	1	2	3	4	5	3.67

20 *Identify basic language and quantitative concepts associated with the content of instructional modules or units.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.41
Special education teachers and/or consultants	1	2	3	4	5	4.63
Counselors	1	2	3	4	5	3.22
Co-op/work study coordinators	1	2	3	4	5	3.63

21 *Develop a cooperative teaching strategy (resource or consulting) for instruction in basic concepts and competencies.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.37
Special education teachers and/or consultants	1	2	3	4	5	4.74
Counselors	1	2	3	4	5	3.37
Co-op/work study coordinators	1	2	3	4	5	3.52

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

22 *Design a system for monitoring student progress and achievement on a regular basis.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.59
Special education teachers and/or consultants	1	2	3	4	5	4.70
Counselors	1	2	3	4	5	3.52
Co-op/work study coordinators	1	2	3	4	5	4.41

23 *Aid special needs learners in obtaining work permits.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	2.96
Special education teachers and/or consultants	1	2	3	4	5	3.37
Counselors	1	2	3	4	5	3.81
Co-op/work study coordinators	1	2	3	4	5	4.78

24 *Utilize instructional techniques that individualize instruction.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.78
Special education teachers and/or consultants	1	2	3	4	5	4.93
Counselors	1	2	3	4	5	3.04
Co-op/work study coordinators	1	2	3	4	5	4.00

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

25 *Utilize small group instructional techniques.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	**4.59**
Special education teachers and/or consultants	1	2	3	4	5	**4.78**
Counselors	1	2	3	4	5	**3.48**
Co-op/work study coordinators	1	2	3	4	5	**3.89**

26 *Utilize peer instruction techniques.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	**4.44**
Special education teachers and/or consultants	1	2	3	4	5	**4.37**
Counselors	1	2	3	4	5	**3.00**
Co-op/work study coordinators	1	2	3	4	5	**3.37**

27 *Utilize laboratory-based, [hands-on] instruction.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	**4.30**
Special education teachers and/or consultants	1	2	3	4	5	**4.22**
Counselors	1	2	3	4	5	**2.59**
Co-op/work study coordinators	1	2	3	4	5	**3.04**

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✳) below.

28 *Manage and adjust as needed, equipment and conditions in the learning environment.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.88
Special education teachers and/or consultants	1	2	3	4	5	4.88
Counselors	1	2	3	4	5	3.29
Co-op/work study coordinators	1	2	3	4	5	4.00

29 *Provide reinforcement and feedback for learning.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.81
Special education teachers and/or consultants	1	2	3	4	5	4.81
Counselors	1	2	3	4	5	4.44
Co-op/work study coordinators	1	2	3	4	5	4.52

30 *Structure a filing system for records and report forms.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	3.22
Special education teachers and/or consultants	1	2	3	4	5	3.63
Counselors	1	2	3	4	5	4.04
Co-op/work study coordinators	1	2	3	4	5	3.93

CONDITION: *Given the responsibility to plan, implement, and evaluate career-oriented instruction for special needs students, secondary school personnel should be able to:*

Mean Ratings from First Questionnaire

Brief rationale statement for your rating of the competencies which are starred (✱) below.

31 *Plan and coordinate off-campus or on-campus work experience [on-the-job] instruction [e.g., work study or co-op].*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	2.93
Special education teachers and/or consultants	1	2	3	4	5	3.37
Counselors	1	2	3	4	5	3.22
Co-op/work study coordinators	1	2	3	4	5	4.93

32 *Use a variety of performance-based techniques for evaluating a student's competencies.*

Degree of Competency Importance
(Circle one number on each scale)

	Unimportant				*Extremely Critical*	
Vocational teachers	1	2	3	4	5	4.74
Special education teachers and/or consultants	1	2	3	4	5	4.70
Counselors	1	2	3	4	5	3.67
Co-op/work study coordinators	1	2	3	4	5	4.67

APPENDIX H

INSERVICE MODULE FEEDBACK INSTRUMENT

COLLEGE OF EDUCATION · BUREAU OF EDUCATIONAL RESEARCH · 288 EDUCATION BUILDING · URBANA, ILLINOIS 61801
(217) 333-3023

November 19, 1975

Dear Review Team Member:

As many of you are aware, since mid-September we have been involved in developing inservice materials focusing on instructional development for special needs learners at the secondary level. Previously you responded to two questionnaires which were designed to determine what you felt were the important competencies needed by secondary school personnel in working with special needs learners enrolled in vocational and special education programs.

The 30 plus key competencies which you helped identify earlier have been incorporated into a series of seven inservice teacher education modules. The modules are designed as resource manuals for teachers and coordinators to use in developing occupational instruction for special needs learners. A listing of the inservice modules and the inservice experiences included in each module is provided on the attached sheet.

Enclosed you will find two of the modules for your review. Also enclosed you will find two instruments I would like you to use in evaluating each of the modules after reading them. These are the initial, field test editions and are in need of an intensive, critical review by an expert in the field, such as yourself. The project staff is intending to utilize your suggestions for revision in the next edition, which we hope to begin working on by December 3. It would be extremely helpful to us if you would complete the two instruments (Inservice Module Feedback Instrument and Module Utilization Checklist), for each module as soon as possible, and return them in the enclosed, return addressed envelope. You may keep the modules for future reference or use if you so desire. If you have suggestions for specific revisions of the modules, please feel free to mark or write on them. We would be pleased to send you another copy to replace any revised copy which you send to us.

Your cooperation in this review process is greatly appreciated. After the next revision, we anticipate being able to provide each review team member with a complete set of the modules. I hope to receive your completed evaluations by December 3. Thanks again for your cooperation and support.

Sincerely,

L. Allen Phelps
Principal Investigator
Competency Based Inservice Project
for Special Needs Personnel

LAP:JLH

Enc.

USER

INSERVICE MODULE FEEDBACK INSTRUMENT

for

MODULE: 1 1A 2 3 4 5 6
(circle one)

Directions: As you are aware, the module you have just completed is designed to acquaint practicing vocational and special education personnel with one component of an instructional development process for special needs students. The seven inservice modules outlining the instructional development process are listed below.

Your evaluation of this module will be useful to the project staff in improving it for further field testing. Part I of the attached form is designed to obtain your reactions to each section of the module (e.g., module goals, introduction, etc.). Part II is intended to identify your general, overall reaction to the module.

Your careful and critical analysis, based on your attempt to use it with special needs students, is essential to the development and refinement of these inservice materials. When finished, please return the attached instrument. You may keep the module if you so desire. Thank you for your assistance.

Inservice Module Series:

1. Instructional Resources
1A. Cooperative Instructional Arrangements
2. Learner Identification and Analysis
3. Cluster and Content Analysis
4. Instructional Planning
5. Instructional Implementation
6. Evaluation of Learner Progress

Please return this instrument at your earliest convenience to:

Allen Phelps
284 Education Building
University of Illinois
Urbana, Illinois 61801

(217) 333-1450

REVIEWER

INSERVICE MODULE FEEDBACK INSTRUMENT

for

MODULE: 1 1A 2 3 4 5 6
(circle one)

Directions: The module you have just read is designed to acquaint practicing vocational and special education personnel with one component of an instructional development process for special needs students. The seven inservice modules outlining the instructional development process are listed below.

Your evaluation of this module will be useful to the project staff in improving it for further field testing. Part I of the attached form is designed to obtain your reactions to each section of the module (e.g., module goals, introduction, etc.). Part II is intended to identify your general, overall reaction to the module.

Your careful and critical analysis, based on your experience with special needs students, is essential to the development and refinement of these inservice materials. When finished, please return the attached instrument. You may keep the module if you so desire. Thank you for your assistance.

Inservice Module Series:

1. Instructional Resources
1A. Cooperative Instructional Arrangements
2. Learner Identification and Analysis
3. Cluster and Content Analysis
4. Instructional Planning
5. Instructional Implementation
6. Evaluation of Learner Progress

Please return this instrument at your earliest convenience to:

Allen Phelps
284 Education Building
University of Illinois
Urbana, Illinois 61801

(217) 333-1450

Name: ______________________

Specific assignment: ______________________

School address: ____________

____

____

Evaluation Code: 1 = Major modification is needed
2 = Acceptable, but some modification is suggested
3 = Acceptable, retain in present form

PART I. MODULE ELEMENTS *(Circle the appropriate response for each item)*

Comments (Please comment where specific modifications are needed. Use the back if needed):

1. Introduction and Rationale: ______________________

overview of topic	1	2	3	*Comments:*
length	1	2	3	
clarity	1	2	3	
interest-generation	1	2	3	
completeness	1	2	3	

2. Module Goals: ______________________

appropriateness	1	2	3	*Comments:*
clarity	1	2	3	
attainability	1	2	3	
comprehensiveness	1	2	3	

3. Description of Inservice Experiences: ______________________ *Comments:*

clarity of directions	1	2	3
completeness	1	2	3

4. Participant Response: ______________________ *Comments:*

clarity of directions	1	2	3

Comments (Please comment on specific modifications needed):

5. Guidelines/Suggestions for Inservice Experience No. _____: ______________________

clarity	1	2	3	*Comments:*
comprehensiveness	1	2	3	
readability (language)	1	2	3	
realistic/reasonable suggestions	1	2	3	
helpfulness of suggestions	1	2	3	
examples	1	2	3	
forms	1	2	3	
usability of forms	1	2	3	

6. Guidelines/Suggestions for Inservice Experience No. _____: ______________________ *Comments:*

clarity	1	2	3
comprehensiveness	1	2	3
readability (language)	1	2	3
realistic/reasonable suggestions	1	2	3
helpfulness of suggestions	1	2	3
examples	1	2	3
forms	1	2	3
usability of forms	1	2	3

7. Self-evaluation: ______________________ *Comments:*

clarity of directions	1	2	3
helpfulness	1	2	3
appropriateness of format	1	2	3
completeness	1	2	3

PART II. GENERAL EVALUATION

For each of the items below, circle the appropriate number which best describes your general reactions or feelings regarding this module.

wordy, rambling	1	2	3	4	5	brief, concise
too detailed/technical	1	2	3	4	5	too superficial
poorly organized	1	2	3	4	5	well organized
confusing	1	2	3	4	5	clear
awkward	1	2	3	4	5	fluent
too informal	1	2	3	4	5	too formal
irrelevant objectives	1	2	3	4	5	meaningful objectives
content irrelevant to objectives	1	2	3	4	5	content relevant to objectives
inadequate examples and resource materials	1	2	3	4	5	adequate, useful resource materials

1. Estimate the number of hours it would take most teachers to complete all of the inservice experiences in this module:

   ______ hours

2. Describe what you like the most about the format and/or content of this module.

3. Describe what you like the least about the format and/or content of this module.

4. In the space below, please list your specific suggestions for redesign, revision, and improvement of this module.

APPENDIX I

MODULE UTILIZATION CHECKLIST

MODULE UTILIZATION CHECKLIST

for

MODULE: 1 1A 2 3 4 5 6
(circle one)

MODULE TITLE: ____________________

Directions: This check list is designed to solicit your views regarding the different ways in which this particular module could be used for inservice teacher education. Please complete each of the sections having to do with inservice audiences for this module, inservice approaches and incentives, and reorganization of the module.

Your Name: ____________________

Specific assignment: ____________________

School Address: ____________________

____

____

Date: ____________________

Inservice Audiences

Listed below are several groups of personnel who conceivably could participate in inservice activities focused on the content of this module. Please place a check in the box nest to each group for which you feel the content of this module would be specifically appropriate.

Vocational Education Personnel

Senior High School or Area Vocational Center

- ☐ Vocational instructors
- ☐ Coop coordinators
- ☐ Vocational counselors
- ☐ Regular counselors
- ☐ Program Administrators

Junior High School Level

- ☐ Practical arts instructors (e.g., home economics, industrial arts, etc.)

Special Education/Service Personnel

Senior or Junior High School Level

- ☐ Classroom teachers (sp. ed.)
- ☐ Resource room teachers
- ☐ Remedial teachers and specialists
- ☐ Consultants (e.g., reading consultants, speech therapists, learning disabilities consultant, etc.)
- ☐ Prevocational or work study coordinators
- ☐ Program administrators
- ☐ Regular class teachers (e.g., general math, English, etc.)

Inservice Approaches and Incentives

Listed below are several possible approaches for delivering inservice using this module. Please rank (1-5, with 1 indicating most desirable) the nine approaches listed in terms of their appropriateness and effectiveness for *conveying the content of this module.* *To the right of each, please specify the number of inservice days (4 contact hrs. = 1 day) you feel would be needed for this module using for each of the different inservice approaches.*

Rank	Approach	No. of Inservice Days Needed for this Module
____	Local district workshop	____ days
____	Statewide workshop	____
____	Regional (within state) workshop	____
____	On-campus university course	____
____	Part of a university course	____
____	Off campus, university course	____
____	Part of an off campus university course	____
____	Correspondence course	____
____	Informal, nonstructured, independent use by teachers or other educational personnel	____

Please rank (from 1 to 5) the inservice incentives you feel would be most appropriately used in combination with the top two approaches you selected above.

Rank	Incentive
____	Released time for participation in inservice
____	University credit with reimbursement from the district
____	University credit without reimbursement
____	Additional pay or salary for participation in inservice
____	District requirment
____	State requirement (i.e., certification)
____	Other, please describe: ______________________________

Module Reorganization

1. Are there any Inservice Experiences that need to be added to this module? ☐ Yes ☐ No	If yes, what experiences should be added? Why?
2. Should any of the Inservice Experiences be taken out of this module and dropped totally? ☐ Yes ☐ No	If yes, please specify which ones and describe why they should be deleted:
3. Should any of the Inservice Experience included in this module be combined? ☐ Yes ☐ No	If yes, please specify which ones you feel should be combined and why:
4. Are any of the Inservice Experiences in this module too involved or too lengthy and need to be divided into two or more inservice components? ☐ Yes ☐ No	If yes, please specify which Inservice Experiences should be split up, how they should be divided; and why:
5. Should any of the Inservice Experiences included in this module be placed in another module? ☐ Yes ☐ No	If yes, please specify which experiences should go to which modules. Please refer to the list of modules and inservice experiences attached to the cover letter:

APPENDIX J

PRODUCT ASSESSMENT CHECKLIST

PRODUCT ASSESSMENT CHECKLIST

VOTEC E399: Instructional Development for Special Needs Learners

Listed below are the criteria to be used by the instructor in evaluating each of the completed inservice experiences. When an experience is completed the product of the experience (the completed learner profile, learning prescription, instructional module, etc.) should be submitted along with your copy of this checklist. The product will be evaluated and returned to you as soon as possible.

Name: ______________________ **School:** ____________________

MODULE 1: INSTRUCTIONAL RESOURCES

Experience 1: Special Needs Resource Inventory

Completeness of information	1	3	5
Clear/concise descriptions	1	2	
Comprehensive for school resources	1	3	5
Comprehensive for community resources	1	3	5
Cooperative effort	1	3	5

Date submitted: ____________ **Returned:** ________________ **TOTAL** __________

Experience 2: Special Needs Advisory Committee

Type of committee identified	1	2	
Suggestions/procedures utilized	1	3	5
Well-planned meeting	1	3	5
Comprehensive committee membership	1	2	
Reasonable suggestions/recommendations from meeting	1	3	5

Date submitted: ____________ **Returned:** ________________ **TOTAL** __________

MODULE 1A: COOPERATIVE INSTRUCTIONAL ARRANGEMENT

Experience 3: Cooperative Instructional Arrangement

Two or more provisions specified	3	5	7
Completeness of information	1	2	
Administrative endorsement(s) provided	3	5	7

Date submitted: ____________ **Returned:** ________________ **TOTAL** __________

MODULE 2: LEARNER IDENTIFICATION AND ANALYSIS

Experience 4: Collecting Student Identification Information

Accurate description of learning problem	1	2	3
Completeness of student information	1	2	3
Completeness of parent/guardian information	1	2	3
Other critical identification information	1	2	3

Date submitted: ______________ Returned: __________________ TOTAL__________

Experience 5: Developing a Learner Analysis Profile

Relevant special needs indicators identified	1	2	3
Documentation for ratings provided	1	3	5
Observed behaviors identified	1	3	5
Team involvement in rating	1	2	3

Date submitted: ______________ Returned: __________________ TOTAL__________

Experience 6: Developing a Learning Prescription

Learning modes identified	1	2	3
Interaction modes identified	1	2	
Anticipated learning rates identified	1	2	
Other critical information provided on the student's learning style	1	2	3

Date submitted: ______________ Returned: __________________ TOTAL__________

MODULE 3: CLUSTER AND CONTENT ANALYSIS

Experience 7: Specifying Career Clusters

Instructional purpose (exploration or preparation) of cluster is identified	1	2	
Cluster-related instructional areas clearly specified	1	3	
Occupational titles are consistent/standardized	1	2	
Occupational titles identified at various levels	1	3	5
Ocupational titles are appropriately classified by level	1	3	
Employment outlook considered in selection of occupations	1	3	5

Experience 7: Specifying Career Clusters (*continued*)

Consideration of specialized occupations for special needs learners is evidenced	1	3	5
Selected occupations are consistent with learner career interests	1	3	5
Identified occupations are locally observable	1	3	5

Date submitted: ______________ Returned: __________________ TOTAL __________

Experience 8: Conducting a Career Cluster Analysis

Type of cluster (exploration or preparation) identified	1	2	
Exhaustiveness of task inventory	1	3	5
Well-written task statements (appropriate and consistent format)	1	3	5
Range of specificity among task statements is consistent	1	3	5
Detailed Instructional Analysis:			
Completeness of task knowledge statements	1	3	5
Completeness of task skill statements	1	3	5
Completeness of significant task aptitudes	1	3	5
Completion of 5 or more Detailed Instructional Analyses (minimum) for "3" rating	1	3	5

Date submitted: ______________ Returned: __________________ TOTAL __________

MODULE 4: INSTRUCTIONAL PLANNING

Experience 9: Sequencing Instruction

Listing of 10 consistently specific instructional units/tasks	1	3	5
Organization of tasks by student interest	1	2	
Organization of tasks by frequency sequence	1	2	
Organization of tasks by graduated sequence	1	2	
Organization of tasks by other relevant sequences	1	2	

Date submitted: ______________ Returned: __________________ TOTAL __________

Experience 10: Developing Instructional Modules

Identification of Learner	1	2	
Identification of cluster/program	1	2	
Identification of task/unit	1	2	
Identification of occupational performance objectives	1	2	3
Identification of basic skills/aptitudes	1	2	3
Identification of basic skill/concept content	1	2	3
Identification of teacher and learner activities for occupational instruction	1	2	3
Identification of teacher and learner activities for basic skill/concept instruction	1	2	3
Identification of instructional resource materials	1	2	3

Date submitted: ______________ Returned: __________________ TOTAL__________

MODULE 5: IMPLEMENTING INSTRUCTION

Experience 11: Analyzing Instructional Materials

Several samples used to compute reading level	1	2
Reading levels computed accurately and averaged	1	2
Completion of instructional materials checklist	1	3
Other considerations identified for use or modification of the instructional material	1	3

Date submitted: ______________ Returned: __________________ TOTAL__________

Experience 12: Providing Reinforcement and Feedback

Instructional team involved in contingency contract	1	3
Target performance accurately described	1	3
Appropriate rewards/incentives for the learner	1	3
Contract is clear and complete	1	2

Date submitted: ______________ Returned: __________________ TOTAL__________

Experience 13: Planning and Coordinating Work Experience Programs

Training plan completed	3	5	7
Training station evaluation plan specified	1	3	5
Other supportive materials/forms utilized	3	5	7

Date submitted: ______________ Returned: __________________ TOTAL__________

MODULE 6: EVALUATION OF LEARNER PROGRESS

Experience 14: Developing a Learner Performance Profile

Learner, program and evaluation period identified	1	2	3
Team involvement in progress assessment	1	3	
Multiple assessments/ratings per task or per student	1	3	
Concise descriptive criteria for ratings	1	3	5

Date submitted: ______________ Returned: __________________ TOTAL __________

Experience 15: Conducting a Learner Follow-up Study

Major evaluation questions specified	1	3	
Specific questions on instrument related to major questions	1	2	3
Survey format appropriate for the selected special needs population	1	3	
Cover letter/directions clear and concise	1	3	
Response format is appropriate and functional	1	3	
Follow-up completed(if a mail survey)	1	2	
Recommendations developed	3	5	7
Formal report prepared and appropriately disseminated	3	5	7

Date submitted: ______________ Returned: __________________ TOTAL __________

APPENDIX K

INSERVICE NEEDS ASSESSMENT INSTRUMENT

INSERVICE NEEDS ASSESSMENT INSTRUMENT

Directions: This form is designed to assist the workshop staff in determining what you feel are the important instructional practices and strategies when working with special needs learners, as well as other teachers, coordinators, and consultants in your present assignment. Your responses will enable us to design selected workshop activities focusing on the instructional practices which are of interest and importance to you. For each of the 33 practices/strategies, please circle one response for questions A and B.

Name: ______________________

District: ______________________

School: ______________________

Specific teaching assignment: ______________________

Grade level: ________ **Date:** ______________

INSTRUCTIONAL PRACTICE OR STRATEGY	QUESTION A What is the relative time you spend using this practice or strategy with or for special needs learners? *(Circle one response. If the practice is not used, leave the scale blank.)*							QUESTION B I wish I knew more about this practice or strategy. *(Circle one response.)*				
	Very little time						*Most of my time*	*No*		*Yes, a bit more*		*Yes, much more*
1. Use advisory groups in developing instruction.	1	2	3	4	5	6	7	1	2	3	4	5
2. Use community resources in the instructional program.	1	2	3	4	5	6	7	1	2	3	4	5
3. Identify and utilize supportive services from agencies, such as Vocational Rehabilitation.	1	2	3	4	5	6	7	1	2	3	4	5
4. Conduct a community needs survey.	1	2	3	4	5	6	7	1	2	3	4	5
5. Use a screening-referral process for identification of students with special needs.	1	2	3	4	5	6	7	1	2	3	4	5
6. Work with other educators, specialists, and parents in evaluating the learner's educational needs.	1	2	3	4	5	6	7	1	2	3	4	5
7. Formalize a cooperative, team teaching plan for serving special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
8. Identify the learning characteristics of a group of special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
9. Develop a learning prescription for a special needs student, describing optimum conditions and media for instruction.	1	2	3	4	5	6	7	1	2	3	4	5
10. Refer special needs learners to guidance staff and other specialists.	1	2	3	4	5	6	7	1	2	3	4	5
11. Identify occupations and clusters of occupations for which career exploration and/or preparation instruction can and should be provided.	1	2	3	4	5	6	7	1	2	3	4	5
12. Specify career-related instructional programs which can provide the relevant, occupation cluster instruction for a special needs learner(s).	1	2	3	4	5	6	7	1	2	3	4	5
13. Conduct an analysis to determine the knowledge concepts, specific job skills, general competencies and standards of performance needed for employment in a given career cluster.	1	2	3	4	5	6	7	1	2	3	4	5
14. Identify modules or units of instruction appropriate for special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
15. Plan sequences of instructional units according to the learner's needs.	1	2	3	4	5	6	7	1	2	3	4	5

	QUESTION A: What is the relative time you spend using this practice or strategy with or for special needs learners? *(Circle one response. If the practice is not used, leave the scale blank.)*							QUESTION B: I wish I knew more about this practice or strategy. *(Circle one response.)*				
INSTRUCTIONAL PRACTICE OR STRATEGY	*Very little time*						*Most of my time*	*No*		*Yes, a bit more*		*Yes, much more*
16. Develop or adapt a format appropriate for instructional planning, e.g., unit plans.	1	2	3	4	5	6	7	1	2	3	4	5
17. Develop student performance objectives for instructional modules or units.	1	2	3	4	5	6	7	1	2	3	4	5
18. Identify the basic aptitudes and competencies (e.g., dexterity or sequencing skills) required for employment in a given career.	1	2	3	4	5	6	7	1	2	3	4	5
19. Design instructional activities or methods appropriate for and effective with different special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
20. Select or develop instructional materials which are appropriate for different special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
21. Identify basic language and quantitative concepts associated with the vocational content of instructional modules or units.	1	2	3	4	5	6	7	1	2	3	4	5
22. Design a system for monitoring student progress and achievement on a regular basis.	1	2	3	4	5	6	7	1	2	3	4	5
23. Aid special needs learners in obtaining work permits.	1	2	3	4	5	6	7	1	2	3	4	5
24. Utilize instructional techniques that individualize instruction.	1	2	3	4	5	6	7	1	2	3	4	5
25. Utilize small group instructional techniques.	1	2	3	4	5	6	7	1	2	3	4	5
26. Utilize peer instruction techniques.	1	2	3	4	5	6	7	1	2	3	4	5
27. Utilize laboratory-based, hands-on instruction.	1	2	3	4	5	6	7	1	2	3	4	5
28. Manage and adjust as needed, equipment and physical conditions in the learning environment for individual special needs learners.	1	2	3	4	5	6	7	1	2	3	4	5
29. Provide reinforcement and feedback for learning.	1	2	3	4	5	6	7	1	2	3	4	5
30. Develop a filing system for records and report forms.	1	2	3	4	5	6	7	1	2	3	4	5
31. Plan and coordinate off-campus or on-campus on-the-job instruction, e.g., work study or coop.	1	2	3	4	5	6	7	1	2	3	4	5
32. Use a variety of performance-based techniques for evaluating a student's competencies.	1	2	3	4	5	6	7	1	2	3	4	5
33. Obtain follow-up information on special needs students leaving or graduating from school programs.	1	2	3	4	5	6	7	1	2	3	4	5

APPENDIX L

INSERVICE NEEDS ASSESSMENT INSTRUMENT: ADMINISTRATOR FORM

INSERVICE NEEDS ASSESSMENT INSTRUMENT: Administrator Form

Page 1 of 3

Name: ____________________

Title: ____________________

District: ____________________

Date: ____________________

Directions: This instrument is designed to assist the workshop staff in determining the specific focus of the workshop on instructional development for special needs learners. Your candid assessment of the instructional practices which are currently used, as well as those you feel should be used more frequently by your staff in working with special needs learners will be of considerable value to us in planning. Your responses will enable us to provide focused and relevant workshop experiences and will be held in confidence.

For each of the 33 practices/strategies, please circle one response for each of the four questions. On this form, if you do not have coordination personnel working with special needs learners at this level, please leave the appropriate questions unanswered.

TARGET AUDIENCE:

Middle school/Junior High School Personnel

	QUESTION A				QUESTION B				QUESTION A				QUESTION B			
	To what extent do most of the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent do most of the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?			
INSTRUCTIONAL PRACTICE OR STRATEGY	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*
1. Use advisory groups in developing instruction.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
2. Use community resources in the instructional program.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
3. Identify and utilize supportive services from agencies, such as Vocational Rehabilitation.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
4. Conduct a community needs survey.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
5. Use a screening-referral process for identification of students with special needs.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
6. Work with other educators, specialists, and parents in evaluating the learner's educational needs.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
7. Formalize a cooperative, team teaching plan for serving special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
8. Identify the learning characteristics of a group of special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
9. Develop a learning prescription for a special needs student, describing optimum conditions and media for instruction.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
10. Refer special needs learners to guidance staff and other specialists.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

	QUESTION A				QUESTION B				QUESTION A				QUESTION B			
	To what extent do most of the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent do most of the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?			
INSTRUCTIONAL PRACTICE OR STRATEGY	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*
11. Identify occupations and clusters of occupations for which career exploration and/or preparation instruction can and should be provided.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
12. Specify career-related instructional programs which can provide the relevant occupation cluster instruction for a special needs learner(s).	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
13. Conduct an analysis to determine the knowledge concepts, specific job skills, general competencies and standards of performance needed for employment in a given career cluster.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
14. Identify modules or units of instruction appropriate for special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
15. Plan sequences of instructional units according to the learner's needs.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
16. Develop or adapt a format appropriate for instructional planning, e.g., unit plans.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
17. Develop student performance objectives for instructional modules or units.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
18. Identify the basic aptitudes and competencies (e.g., dexterity or sequencing skills) required for employment in a given career.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
19. Design instructional activities or methods appropriate for and effective with different special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
20. Select or develop instructional materials which are appropriate for different special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

	QUESTION A				QUESTION B				QUESTION A				QUESTION B			
	To what extent do most of the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the classroom and resource personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent do most of the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?				To what extent should the work study/co-op coordination personnel on your staff at this level use this practice/strategy in working with special needs learners?			
INSTRUCTIONAL PRACTICE OR STRATEGY	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Always*	*Never*	*Infrequently*	*Frequently*	*Al-*
21. Identify basic language and quantitative concepts associated with the vocational content of instructional modules or units.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
22. Design a system for monitoring student progress and achievement on a regular basis.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
23. Aid special needs learners in obtaining work permits.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
24. Utilize instructional techniques that individualize instruction.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
25. Utilize small group instructional techniques.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
26. Utilize peer instruction techniques.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
27. Utilize laboratory-based, hands-on instruction.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
28. Manage and adjust as needed, equipment and physical conditions in the learning environment for individual special needs learners.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
29. Provide reinforcement and feedback for learning.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
30. Develop a filing system for records and report forms.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
31. Plan and coordinate off-campus or on-campus on-the-job instruction, e.g., work study or coop.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
32. Use a variety of performance-based techniques for evaluating a student's competencies.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
33. Obtain follow-up information on special needs students leaving or graduating from school programs.	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

APPENDIX M

INTERVIEW SCHEDULE—FORM 1:
VOCATIONAL EDUCATION ADMINISTRATOR

INTERVIEW SCHEDULE

Form 1: Vocational Education Administrator

REFERENCE DATA: Interviewer:____________ Location:___________ Date:______

District:______________________ Interviewee:____________________

Interviewee's Position/Title:___________________________________

Section 1: Identification of Special Needs Learners

1. Please describe briefly the process by which special needs students are identified for the DVTE reimbursement claim.

____

____

____

2. Are there any forms used in this identification process which have been developed by the local district?

____ Yes If yes, is it possible to obtain a copy of the form(s)?

____ No

3. Which individuals (from the list below) commonly initiate the identification of special needs learners for the DVTE reimbursement claim?

   a. Classroom teachers/coordinators make ____% of the identifications
   b. Regular counselors make ____%
   c. Administrators make ____%
   d. Parents make ____%
   e. Others (please specify)

   ______________________ ____%

   ______________________ ____%

   100%

4. What percentage (%) of special education eligible students who enroll in vocational education programs are also regarded as special needs (handicapped/disadvantaged) on the DVTE reimbursement claim?

____%

5. What percentage (%) of the total group identified as special needs are also eligible for special education?

____%

6. By what percentage (%) has the number of students claimed for DVTE reimbursement increased or decreased over the past three years in your district?

____ Increased approximately ____%

____ Decreased approximately ____%

____ Stayed about the same ____%

What reasons can you cite for the increase/decrease?

____

____

7. How effective do you feel the identification process/form is? What shortcomings and/or strengths does it have?

____ Highly effective

____ Effective

____ Noneffective

Shortcomings:

a. ______________________________

b. ______________________________

c. ______________________________

Strengths:

a. ______________________________

b. ______________________________

c. ______________________________

Section 2: Assessment of Learner Needs

1. Are the vocational instructors provided any specific information, assessment data, or records describing individual learning problems or needs?

____ Yes

____ No

If yes, please describe briefly the information commonly received, and indicate who provides it.

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

d. ______________________________

____

2. If staffings are held on special students, please describe the conditions under which vocational teachers would be involved?

3. Do you feel the assessment data generally available on special needs learners in your district is helpful for most teachers?

____ Yes

____ No

If no, what alternative kinds of data would be more helpful, and why, specifically, do you feel these would be better?

Section 3: Instructional Objectives

1. It is obvious, from reading your One/Five Year Plan, that you encourage your staff to write measurable performance objectives. Which format or set of guidelines do you encourage them to use in writing objectives? (DVTE, Mager, Gronlund, etc.)

2. Which of the following best describe how these objectives are written and/or utilized by most of the vocational staff?

____ General school program objectives

____ Class/course objectives where level of performance is the same for all students

____ Class/course objectives where level of performance is keyed to student developmental level

____ Individually written, prescriptive performance objectives

3. Are the written objectives reviewed by someone periodically?

	How often?
____ advisory committees	__________
____ school board	__________
____ program director/supervisor	__________
____ building administrator	__________
____ individual administrator	__________
____ curriculum committees	__________
____ other (please specify)	
______________________	__________
______________________	__________

4. Have any curriculum products, reports, program catalogues, etc. resulted from these activities?

____ Yes   If yes, please describe briefly the content and present use of these documents.

____ No

Content: ______________________________ Present Use: ________________

______________________________________ ______________________________

Are these available for review?

____ Yes

____ No

5. Are you generally satisfied with your staff's ability to write performance objectives?

____ Yes   If no, what needs to be done to improve their performance in this area? ______________________________

____ No

____

____

6. To what extent do you feel the performance objectives currently written by your staff are appropriate for special needs learners?

a. ____ Highly appropriate, functionally useful with special needs learners

b. ____ Appropriate for some, but not all special needs learners

c. ____ Generally inappropriate for special needs learners

If B or C are checked above, what do you feel needs to be done to assist the staff in developing performance objectives that are usable with special needs learners?

____

____

____

Section 4: Advisory Committees

1. Are there any special advisory or school committees which oversee the special needs program?

_____ Yes If yes, please describe their current and recent activities.

_____ No

____

____

____

2. If yes above, pleast list (by title) the individuals currently serving on the committee(s):

a.____________________ d.____________________

b.____________________ e.____________________

c.____________________ f.____________________

3. Is, or has there been, discussion of problems/services associated with the special needs student at recent advisory committee meetings you have attended (within the last year)?

_____ Yes If yes, what was the focus of the discussion?__________

_____ No

____

____

4. Have there been any identifiable outcomes from this discussion?

_____ Yes If yes, please list:______________________________

_____ No

____

____

5. Are the minutes of this meeting(s) available for review?

_____ Yes

_____ No

6. Are there any individuals currently serving on any of the occupational advisory committees who represent the concerns of the special needs population specifically (e.g. vocational rehab counselor)?

_____ Yes If yes, please list by title:______________________

_____ No

____

____

Section 5: Instructional Materials

1. What percentage (%) of the teachers on your staff are aware of the specific reading level of the instructional materials they are currently using?

   ____ %

2. To the best of your knowledge, what percentage (%) of teachers used readability formulas to obtain this information?

   ____ %

3. How common is it for staff members to submit requests for special instructional materials to be used with special needs learners?

   ____ 0-5 requests/month

   ____ 6-10

   ____ more than 10

   ____ 0-5 requests/year

   ____ no requests within the past year

   Generally, have these requests been honored/rejected?

   ____ % honored

   ____ $ rejected for the following reasons:

   ____

   ____

   ____

Section 6: Cooperative Activities and Planning

1. Article 6 of the Illinois Rules and Regulations Governing the Administration and Operation of Special Education covers the development of individual vocational plans for secondary special education students. Are you or any of your staff members involved in preparing the vocational plans for individual special education students?

   ____ Yes

   ____ No

   If yes, briefly describe the nature of vocational education involvement in this process.____________________

   ____

   ____

   ____

2. Generally speaking, how frequently would you estimate that the following staff members have contact with special education teachers regarding assistance for a special needs learner?

Jr. hi/middle school practical arts teachers: ____ contacts/month

High school vocational teachers: ____ contacts/month

Area vocational center teachers: ____ contacts/month

Coop/work experience coordinators: ____ contacts/month

Vocational counselors: ____ contacts/month

Others (please identify):

________________________________ ____ contacts/month

________________________________ ____ contacts/month

3. Which of the following cooperative instructional planning tasks have you observed occuring between the vocational staff and the secondary supportive services personnel? Check all that are appropriate.

____ Planning of specific units of instruction collectively

____ Exchanging technical-word vocabulary lists

____ Exchanging technically-related math problems

____ Observation by special education personnel in vocational education classrooms

____ Individualized instruction provided by sp. ed. person in voc. ed. classroom

____ Cooperative involvement on shild study assessment/placement meetings

____ Collectively working with community agencies

____ Collectively seeking parent endorsement/cooperation/support

____ Other activities (Please describe.)

____

____

____

____

4. To the best of your knowledge, within the last two years how many joint staff meetings have there been between vocational and secondary special educators at the building level?

____ Number

____ Don't know

If non-zero, (1) what locations? (2) when were they held? and (3) what were the outcomes?

1.____________________

____

2.____________________

____

3a.____________________

b.____________________

c.____________________

d.____________________

If "don't know" in 4, is there another administrator who would know more about these meetings?

____ Yes

____ No

If yes, please list name(s):____________________

____

____

5. To the best of your knowledge, within the last two years how many joint staff meetings have there been between vocational and secondary special educators at the district level?

____ Number

____ Don't know

If non-zero, (1) when were they held, and (2) what were the identificable outcomes?

1.____________________

2a.____________________

b.____________________

c.____________________

6. Within the past two years how many joint staff inservice meetings have there been at the building level?

____ Number

____ Don't know

If one or more, what were the topics discussed?

a.____________________

b.____________________

c.____________________

7. Within the past two years how many joint staff inservice meetings have there been at the district level?

____ Number

____ Don't know

If one or more, what were the topics discussed?

a.____________________

b.____________________

c.____________________

8. Generally speaking, how frenquently would you estimate the following staff members have contact with personnel from federal/state agencies (i.e., vocational rehabilitation, the employment service, etc.) regarding a special needs learner?

Jr. hi./middle school, practical arts teachers: ____ contacts/month____/year

High school vocational teachers: ____ contacts/month____/year

Area vocational center teachers: ____ contacts/month____/year

Coop/work experience coordinators: ____ contacts/month____/year

Vocational counselors: ____ contacts/month____/year

Section 7: Staff and Program

1. How many individuals have been hired and are currently employed as part of the vocational education staff to work exclusively with special needs learners?

____ Number

If non-zero, please describe their: (1) duties, (2) types of students served, (3) background, and (4) certification.

1.____

2.____

3.____

4.____

2. Are there any vocationally funded and staffed programs, which are classroom-based, that are specifically designed for the special needs learners?

____ Yes

____ No

If yes, please describe the program and clients briefly.

____

____

3. Are there any vocationally funded and staffed programs which are work experience-based that are specifically designed for the special needs learners?

____ Yes

____ No

If yes, please describe the program and clients briefly.

____

____

Section 8: Placement and Follow-up

1. Are there any specific job placement services available to graduates in this district?

____ Yes If yes, describe these briefly.________________________

____ No ________________________

____

2. Are these services available to special needs learners?

____ Yes If only limited or special placement services (different from those above) are available for this group, please describe:________________________

____ No ________________________

____

3. Are there any comparative data on placement and follow-up available which would show the number of special needs learners placed? What types of jobs they took?

____

____

____

4. How recent is this data?

____

____

Section 9: Miscellaneous

1. Which of the instructional programs listed in your One/Five Year Plan involve part-time experience? Please list.

____

____

____

____

APPENDIX N

INTERVIEW SCHEDULE—FORM 2: SPECIAL EDUCATION ADMINISTRATOR

INTERVIEW SCHEDULE

Form 2: Special Education Administrator

REFERENCE DATA: Interviewer:________________ Location:____________ Date:_____
District:__________________________ Interviewee:________________
Interviewee's Position/Title:______________________________________

Section 1: Identification of Special Needs Learners

1. Please describe briefly the process by which special education students are identified for purposes of providing special services.

____

____

____

2. Are there any forms used in this referral/identification process which have been developed by the local district?

____ Yes   If yes, is it possible to obtain a copy of the form(s)?

____ No

3. Which individuals (from the list below) commonly initiate the identification of special learners?

a. Classroom teachers/coordinators make ____% of the identifications
b. Regular counselors make ____%
c. Administrators make ____%
d. Parents make ____%
e. Others (please specify)
_____________________ ____%
_____________________ ____%

100%

4. What percentage (%) of special education eligible students who enroll in vocational education programs are also regarded as special needs (handicapped/disadvantaged) on the DVTE reimbursement claim?

_____%

5. What percentage (%) of the total group identified as special needs (for DVTE) are also eligible for special education?

____%

6. By what percentage (5) has the number of special education eligible students increased or decreased over the past three years in your district?

____ Increased approximately ____%

____ Decreased approximately ____%

____ Stayed about the same

What reasons can you cite for the increase/decrease?

____

____

7. How effective do you feel the identification process/form is? What shortcomings and/or strengths does it have?

____ Highly effective

____ Effective

____ Noneffective

Shortcomings:

a. ______________________________

b. ______________________________

c. ______________________________

Strengths:

a. ______________________________

b. ______________________________

c. ______________________________

Section 2: Assessment of Learner Needs

1. Are the vocational instructors provided any specific information, assessment data, or records describing individual learning problems or needs?

____ Yes

____ No

If yes, please describe briefly the information commonly received, and indicate who provides it.

a. ______________________________

____

b. ______________________________

____

c. ______________________________

____

d. ______________________________

____

2. If staffings are held on special students, please describe the conditions under which vocational teachers would be involved?

____

____

____

____

3. Do you feel the assessment data generally available on special education students in your district is helpful for most regular class teachers?

_____ Yes

_____ No

If no, what alternative kinds of data would be more helpful, and why, specifically, do you feel these would be better?

____

____

____

____

Section 3: Instructional Objectives

1. Which of the following best describes how these objectives are written and/or utilized by the special education staff?

____ General school program objectives

____ Class/course objectives where level of performance is the same for all students

____ Class/course objectives where level of performance is keyed to students developmental level

____ Individually written, prescriptive performance objectives

2. Obviously you encourage your staff to write measurable performance objectives. Which format or set of guidelines do you encourage them to use in writing objectives? (DVTE, Mager, Gronlund, etc.)

____

____

____

____

Section 4: Advisory Committees

1. Are there any special advisory or school committees which oversee the special education program?

_____ Yes If yes, please describe their current and recent activities.
_____ No
____
____
____

2. If yes above, please list (by title) the individuals currently serving on the committee(s):

a.______________________ d.______________________
b.______________________ e.______________________
c.______________________ f.______________________

3. Is, or has there been, discussion of problems/services associated with the secondary special education student and vocational programs/services at recent advisory committee meetings you have attended (within the last year)?

_____ Yes If yes, what was the focus of the discussion? __________
_____ No ____
____

4. Have there been any identifiable outcomes from this discussion?

_____ Yes If yes, please list: ______________________
_____ No ____
____

5. Are the minutes of this meeting(s) available for review?

_____ Yes
_____ No

6. Are there any individuals currently serving on any of these advisory committees who represent the vocational concerns of the special population specifically (e.g., vocational rehab counselor)?

_____ Yes If yes, please list by title: ______________________
_____ No ____
____

Section 5: Instructional Materials

1. What percentage (%) of the teachers on your staff are aware of the specific reading level of the instructional materials they are currently using?

_____%

2. To the best of your knowledge, what percentage (%) of teachers used readability formulas to obtain this information?

_____%

3. How common is it for staff members to submit requests for special instructional materials to be used with special learners?

_____ 0-5 requests/month

_____ 6-10

_____ more than 10

_____ 0-5 requests/year

_____ no requests within the past year

Generally, have these requests been honored/rejected

_____% honored

_____% rejected for the following reasons:

____

____

____

Section 6: Cooperative Activities and Planning

1. Article 6 of the Illinois Rules and Regulations Governing the Administration and Operation of Special Education covers the development of individual vocational plans for secondary special education students. Are you or any of your staff members involved in preparing the vocational plans for individual special education students?

_____ Yes

_____ No

If yes, briefly describe the nature of vocational education involvement in this process.________________

____

____

____

2. Generally speaking, how frequently would you estimate that the following vocational staff members have contact with wpcial education teachers regarding assistance for a special learner?

Jr. hi/middle school practical arts teachers: ____ contacts/month
High school vocational teachers: ____ contacts/month
Area vocational center teachers: ____ contacts/month
Coop/work experience coordinators: ____ contacts/month
Vocational counselors: ____ contacts/month
Others (please identify):
________________________________ ____ contacts/month
________________________________ ____ contacts/month

3. Which of the following cooperative instructional planning tasks have you observed occuring between the vocational staff and the secondary supportive services personnel? Check all that are appropriate.

____ Planning of specific units of instruction collectively
____ Exchanging technical-word vocabulary lists
____ Exchanging technically-related math problems
____ Observation by special education personnel in vocational education classrooms
____ Individualized instruction provided by sp. ed. person in voc. ed. classroom
____ Cooperative involvement on child study assessment/placement meetings
____ Collectively working with community agencies
____ Collectively seeking parent endorsement/cooperation/support
____ Other activities (Please describe.)

____
____
____
____

4. To the best of your knowledge, within the last two years how many joint staff meetings have there been between vocational and secondary special educators at the building level?

____ Number

____ Don't know

If non-zero, (1) what locations? (2) when were they held? and (3) what were the outcomes?

1. ______________________________

____

2. ______________________________

____

3a. ______________________________

b. ______________________________

c. ______________________________

d. ______________________________

If "don't know" in 4, is there another administrator who would know more about these meetings?

____ Yes

____ No

If yes, please list name(s): ______________________________

____

____

5. To the best of your knowledge, within the last two years how many joint staff meetings have there been between vocational and secondary special educators at the district level?

____ Number

____ Don't know

If non-zero, (1) when were they held, and (2) what were the identificable outcomes?

1. ______________________________

2a. ______________________________

b. ______________________________

c. ______________________________

6. Within the past two years how many joint staff inservice meetings have there been at the building level?

____ Number

____ Don't know

If one or more, what were the topics discussed?

a. ______________________________

b. ______________________________

c. ______________________________

7. Within the past two years how many joint staff inservice meetings have there been at the district level?

____ Number If one or more, what were the topics discussed?

____ Don't know

a.______________________________

b.______________________________

c.______________________________

8. Generally speaking, how frequently would you estimate the following staff members have contact with personnel from federal/state agencies (i.e., vocational rehabilitation, the employment service, etc.) regarding a special needs learner?

Jr. hi/middle school, special education teachers: ____ contacts/month ____/year

High school special education teachers: ____ contacts/month ____/year

Area vocational center teachers: ____ contacts/month ____/year

Coop/work experience coordinators: ____ contacts/month ____/year

Vocational counselors: ____ contacts/month ____/year

Section 7: Staff and Program

1. How many individuals have been hired and are currently employed as part of the special education staff to work exclusively with special learners in vocational skill development?

____ Number If non-zero, please describe their: (1) duties, (2) types of students served, (3) background, and (4) certification.

1.______________________________

2.______________________________

3.______________________________

4.______________________________

2. Are there any special education funded and staffed programs, which are classroom-based, that are specifically designed for the special learners.

____ Yes If yes, please describe the program and clients briefly.

____ No

____

____

3. Are there any special education funded and staffed programs which are work experience-based that are specifically designed for the special learners?

____ Yes   If yes, please describe the program and clients briefly.

____ No   ____

____

Section 8: Placement and Follow-up

1. Are there any specific job placement services available to graduates in this district?

____ Yes   If yes, describe these briefly. ____________________

____ No   ____

____

2. Are these services available to special needs learners?

____ Yes   If only limited or special placement services (different from those above) are available for this group, please describe: ____________________

____ No

____

____

3. Are there any comparative data on placement and follow-up available which would show the number of special needs learners placed? What types of jobs they took?

____

____

____

4. How recent is this data?

____

____

APPENDIX O

INSERVICE PARTICIPANT LOG FORM AND EXAMPLES

INSERVICE PARTICIPANT LOG

Course: VOTEC 399E: Instructional Development for Special Needs Learners

Name:______________________________ School:______________________________

Date:______________________________ No. of Hours:________________________

Inservice Activities *(What have you been doing?)*

Reactions, Feelings, Complaints, Suggestions *(How do you feel about what you did?)*

INSERVICE PARTICIPANT LOG

Course: VOTEC 399E: Instructional Development for Special Needs Learners

Name: Mary Good Example School: Marion High School

Date: Oct 18, 1975 No. of Hours: 16

Inservice Activities *(What have you been doing?)*

1. Read Inservice Experience No 8 in module
2. Met w/ Resource Room teacher – discussed module on baking for Patti Smith
3. Attended class 10/3, 10/10, 10/17
4. Implemented instructional modules 3, 4 + 5 w/ Patti

Reactions, Feelings, Complaints, Suggestions *(How do you feel about what you did?)*

Inservice Experience No. 8
Had difficulty understanding definitions – skill sequencing and interest sequencing
How are they different?

Had difficulty finding good instructional materials for baking for Patti – I shared what I did have with Resource Room teacher – she simplified and used some of them

Class discussion on 10/10 was more confusing than helpful. Got off the track to much. Filled-in example forms would help to explain the use of the "Learner Analysis Profile"

I'm pleased with the help we have given Patti. Progress has, really been slow at times, but overall I think she's doing better because of the Resource Teacher's help.

GOOD EXAMPLE

INSERVICE PARTICIPANT LOG

Course: VOTEC 399E: Instructional Development for Special Needs Learners

Name: [illegible] School: [illegible]

Date: Oct No. of Hours: 16

Inservice Activities (What have you been doing?)

teaching
[illegible] to [illegible]

BAD

Reactions, Feelings, Complaints, Suggestions *(How do you feel about what you did?)*

Kids nothing but problems
No money for materials
modules totally useless
Module 4 okay
Parents [illegible] care about
[illegible] or school.

EXAMPLE

APPENDIX P

PARTICIPANT-OBSERVER REPORT

PARTICIPANT-OBSERVER REPORT

VOTEC E399: Instructional Development for Special Needs Learners

Name: ______________________

Date: ______________________

Site: ______________________

Module under discussion (*number*): ______________________

Specific Inservice Experiences under discussion (*number*): __________

No. of participants observed: _______ Observation Time: __________

PLEASE RECORD YOUR *OBSERVATIONS* *AND* *RELEVANT EVALUATIVE COMMENTS* *REGARDING EACH OF THE FOLLOWING:*

1. Specific topics (subjects discussed):

2. Identify the problems and/or questions encountered by the group with this module/inservice experience:

3. Record relevant and pertinent participant comments (e.g., *"This module is extremely confusing"*)

4. Type of discussion/interaction (e.g., *cooperative/participative, monopolized by one individual, supportive, passive, etc.*)

5. Brief description of physical environment/seating arrangement:

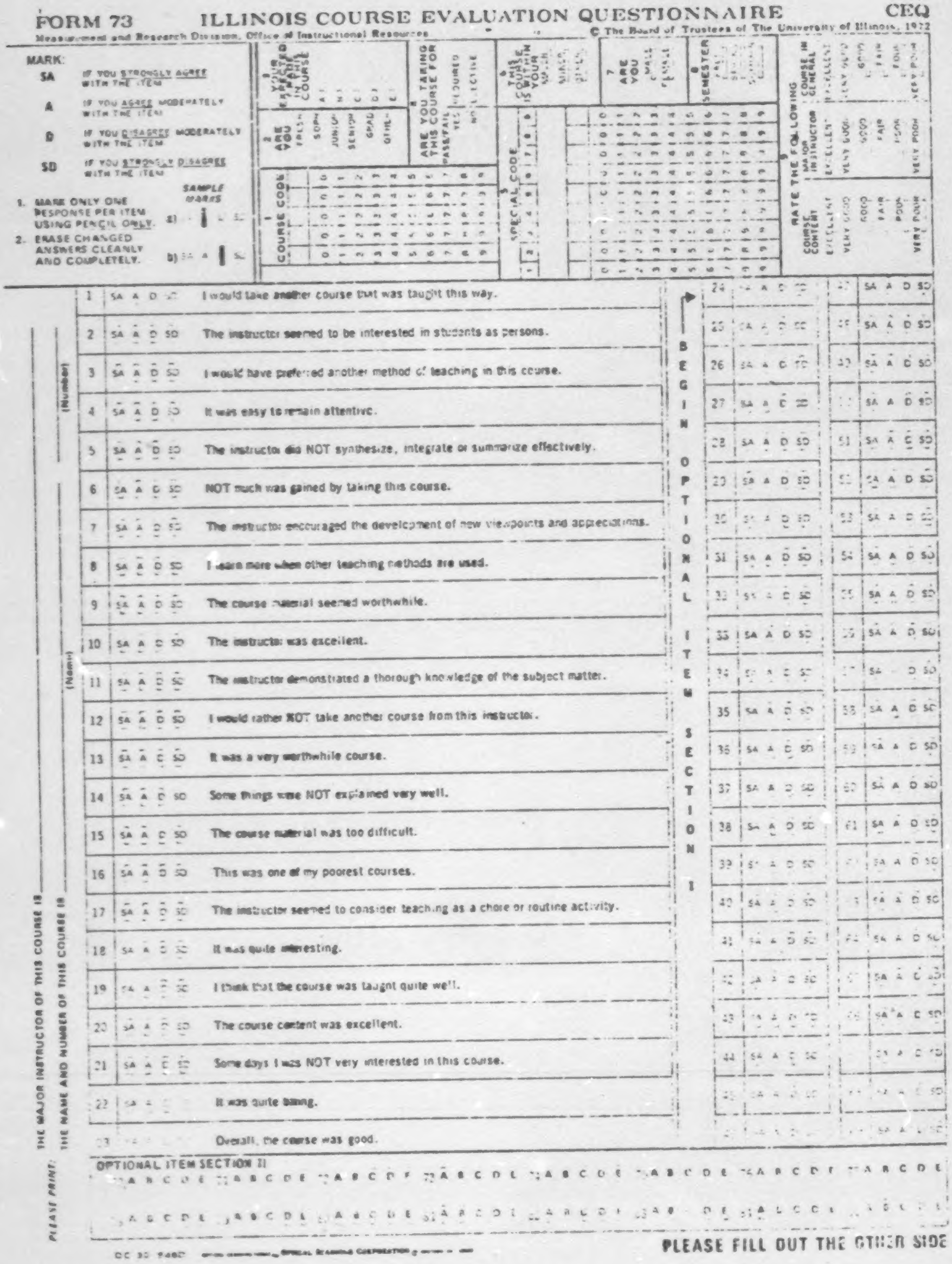
6. Type(s) of discussion participation by observer (e.g., *leading discussion, questioning participants, providing clarifying information, etc.*)

7. Amount of discussion paritcipation by observer (e.g., *active leadership of discussion, moderately active, passive, none*)

8. Specific observations and suggestions for improvement of modules:

APPENDIX Q

ILLINOIS COURSE EVALUATION QUESTIONNAIRE



FORM 73 **ILLINOIS COURSE EVALUATION QUESTIONNAIRE** CEQ

Measurement and Research Division, Office of Instructional Resources

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MARK:

SA IF YOU STRONGLY AGREE WITH THE ITEM

A IF YOU AGREE MODERATELY WITH THE ITEM

D IF YOU DISAGREE MODERATELY WITH THE ITEM

SD IF YOU STRONGLY DISAGREE WITH THE ITEM

1. MARK ONLY ONE RESPONSE PER ITEM USING PENCIL ONLY.
2. ERASE CHANGED ANSWERS CLEANLY AND COMPLETELY.

SAMPLE MARKS a) b) SA A SD

1 COURSE CODE 0 1 2 3 4 5 6 7 8 9

2 ARE YOU FRESH SOPH JUNIOR SENIOR GRAD OTHER

3 YOUR EXPECTED GRADE IN THIS COURSE A B C D E

4 ARE YOU TAKING THIS COURSE FOR PASS/FAIL YES NO REQUIRED ELECTIVE

5 SPECIAL CODE

6 THIS COURSE IS WITHIN YOUR MAJOR OTHER

7 ARE YOU MALE FEMALE

8 SEMESTER FALL SPRING SUMMER

9 RATE THE FOLLOWING

COURSE IN GENERAL EXCELLENT VERY GOOD GOOD FAIR POOR VERY POOR

MAJOR INSTRUCTOR EXCELLENT VERY GOOD GOOD FAIR POOR VERY POOR

COURSE CONTENT EXCELLENT VERY GOOD GOOD FAIR POOR VERY POOR

1	SA A D SD	I would take another course that was taught this way.
2	SA A D SD	The instructor seemed to be interested in students as persons.
3	SA A D SD	I would have preferred another method of teaching in this course.
4	SA A D SD	It was easy to remain attentive.
5	SA A D SD	The instructor did NOT synthesize, integrate or summarize effectively.
6	SA A D SD	NOT much was gained by taking this course.
7	SA A D SD	The instructor encouraged the development of new viewpoints and appreciations.
8	SA A D SD	I learn more when other teaching methods are used.
9	SA A D SD	The course material seemed worthwhile.
10	SA A D SD	The instructor was excellent.
11	SA A D SD	The instructor demonstrated a thorough knowledge of the subject matter.
12	SA A D SD	I would rather NOT take another course from this instructor.
13	SA A D SD	It was a very worthwhile course.
14	SA A D SD	Some things were NOT explained very well.
15	SA A D SD	The course material was too difficult.
16	SA A D SD	This was one of my poorest courses.
17	SA A D SD	The instructor seemed to consider teaching as a chore or routine activity.
18	SA A D SD	It was quite interesting.
19	SA A D SD	I think that the course was taught quite well.
20	SA A D SD	The course content was excellent.
21	SA A D SD	Some days I was NOT very interested in this course.
22	SA A D SD	It was quite boring.
23	SA A D SD	Overall, the course was good.

BEGIN OPTIONAL ITEM SECTION I

24	SA A D SD	47	SA A D SD
25	SA A D SD	48	SA A D SD
26	SA A D SD	49	SA A D SD
27	SA A D SD	50	SA A D SD
28	SA A D SD	51	SA A D SD
29	SA A D SD	52	SA A D SD
30	SA A D SD	53	SA A D SD
31	SA A D SD	54	SA A D SD
32	SA A D SD	55	SA A D SD
33	SA A D SD	56	SA A D SD
34	SA A D SD	57	SA A D SD
35	SA A D SD	58	SA A D SD
36	SA A D SD	59	SA A D SD
37	SA A D SD	60	SA A D SD
38	SA A D SD	61	SA A D SD
39	SA A D SD	62	SA A D SD
40	SA A D SD	63	SA A D SD
41	SA A D SD	64	SA A D SD
42	SA A D SD	65	SA A D SD
43	SA A D SD	66	SA A D SD
44	SA A D SD	67	SA A D SD
45	SA A D SD	68	SA A D SD
46	SA A D SD	69	SA A D SD

OPTIONAL ITEM SECTION II

A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E

A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E A B C D E

PLEASE PRINT:

THE NAME AND NUMBER OF THIS COURSE IS ______ (Number)

THE MAJOR INSTRUCTOR OF THIS COURSE IS ______ (Name)

OPTICAL SCANNING CORPORATION

PLEASE FILL OUT THE OTHER SIDE

C E Q

PLEASE USE THIS SIDE OF THE FORM FOR YOUR PERSONAL COMMENTS ON TEACHER EFFECTIVENESS AND GENERAL COURSE VALUE-- THEN TURN IT OVER AND ANSWER THE OBJECTIVE QUESTIONS ON THE OTHER SIDE, USING PENCIL ONLY. YOUR INSTRUCTOR WILL NOT SEE YOUR COMPLETED EVALUATION UNTIL AFTER FINAL GRADES ARE IN FOR YOUR COURSE.

COURSE CONTENT

PLEASE GIVE YOUR COMMENTS ON THE COURSE CONTENT, SUBJECT MATTER, AND ANY PARTICULAR RELEVANCE THIS COURSE HAS HAD TO YOUR AREA OF STUDY.

INSTRUCTORS

WRITE THE NAME OF YOUR PRINCIPAL INSTRUCTOR ____________________ T.A. ______________________________

WHAT ARE YOUR GENERAL COMMENTS ABOUT THE INSTRUCTOR(S) IN THIS COURSE?

INSTRUCTIONAL OBJECTIVES

WERE THE INSTRUCTIONAL OBJECTIVES CLEARLY STATED FOR THIS COURSE? YES _____ NO ______ COMMENT:

PAPERS AND HOMEWORK

COMMENT ON THE VALUE OF BOOKS, HOMEWORK, AND PAPERS (IF ANY) IN THIS COURSE.

EXAMS

COMMENT ON THE EXAMS (QUIZZES, PRACTICALS) AS TO DIFFICULTY, FAIRNESS, ETC.

GENERAL

1. WHAT IMPROVEMENTS IN THIS COURSE WOULD YOU SUGGEST?

2. PLEASE GIVE YOUR THOUGHTFUL EVALUATION OF THIS COURSE WITH COMMENTS. ARE YOU SATISFIED WITH WHAT YOU GOT OUT OF THIS COURSE? DO YOU CONSIDER IT A VALUABLE EDUCATIONAL EXPERIENCE? SIMPLY A MEANS OF PASSING A REQUIREMENT? OR A DISAPPOINTMENT? PLEASE COMMENT.

U F 81-153

PLEASE FILL OUT THE OTHER SIDE

[illegible] OPTICAL SCANNING CORPORATION [illegible]

APPENDIX R

TEACHER PORTRAYALS

TEACHER PORTRAYALS

by

Jerilyn Dolan, Participant-Observer
Competency-based Inservice Education for Special Needs Personnel Project

Introduction

The following information was collected from the inservice participant log forms and a series of informal discussions which I initiated with each of the teachers. My main objective was to choose teachers from both vocational and special education fields, at both high school and junior high school levels. The sample of five was chosen in the hope that different points of view unique to these teachers and teacher/coordinators would be represented.

It was the goal of these portrayals to reveal some of the effects which the modules, as an inservice program, had on the participating teachers. Another goal was to provide a description of the different uses made of the various inservice activities, and to describe some of the consequences arising from the implementation of selected modules.

It was important to me that the teachers discussed freely both their positive and negative feelings, and general impressions of the modules without a structured interview. The reason for informal discussion as opposed to structured interviews was to allow the teachers to express feelings objectively and to discuss those experiences which appeared to be most relevant to them.

Prior to working through the modules the teachers were asked to choose a student whom they considered as having "special needs" to work with throughout the course. These students were not necessarily aware that the teacher was working with them. The purpose was merely to facilitate moving through the modules and planning for the needs of a specific student.

For each portrayal, a list of the module content completed by the individual during the field testing is provided. The portrayals which follow reflect the reactions and feelings given in regard to the total inservice experience.

Janet

Module 1: Learner Identification and Analysis

- Experience 1: Collecting Student Idnetification Information
- Experience 2: Developing a Learner Analysis Profile
- Experience 3: Developing a Learning Prescription

Module 2: Cooperative Instructional Arrangements

- Experience 4: Developing a Cooperative Instructional Arrangement

Module 4: Cluster and Content Analysis

- Experience 8: Conducting a Career Cluster Analysis

Janet is a C.W.T. coordinator for special education at Site A. She teaches, supervises, and counsels both physically and mentally handicapped students. Her job involves placing students on-the-job, supervising on-the-job, and teaching a job-related course which deals with practical application of skills, e.g., how to get along with employers and co-workers, etc. Janet has a masters degree and has worked in the field of special education as a teacher and coordinator for twelve years.

The inservice program was recommended to her by the director of vocational education at Site A. In a brief interview the director indicated that he hoped that the course would assist teachers in working with those students who had individual problems. He elaborated,

> Individualized teaching seems to get much lip-service but teachers don't always do this. I felt this course would provide a good opportunity for teachers to get involved with individualized instruction for specific disadvantaged and handicapped students. We also have

> to submit a One- and Five-Year Plan to the state. We have to identify those students who are handicapped and state what their problems are. We are then required to document what will be done for these particular students . . . this is where our weakness lies.

It was hoped that this course would provide the teacher with those skills needed in planning for and teaching students with special needs.

All of Janet's students have learning problems of various degrees, so she chose three students who had specific social-emotional problems which she felt needed extra attention. After the initial involvement in the modules, her general feelings were that the experiences themselves were not especially helpful in dealing with students having problems of this nature, but were more appropriate for dealing with specific academic remediation problems. In interviewing other teachers, it was clear that the objectives of the modules should state that the focus would be on the academic handicaps of the students.

Many teachers may already be familiar with many of the activities presented, depending on the length of their teaching service and the extent of their involvement with special needs students. In Janet's professional career, where she has always been involved with special needs students, her first reaction was, "What am I doing beyond what I normally do? For instance, close contact with other teachers, and gearing their education toward some type of employment." Even though the special education students are vocationally oriented at Site A, there was not a great amount of cooperation between the vocational and special education teachers. Their interaction tended to be informal, involving an exchange of ideas. "They ask for suggestions concerning their lower students and if we have a student that could maybe go in their class. We do that, " Janet explained.

One of the most important concepts of the modules is cooperative teaching. The student's learning may be facilitated by utilizing the skills of many available people. Most of the time, advice from other teachers is readily given. The modules emphasized the importance of utilizing skills of other qualified people and encouraged teachers to seek assistance. During and after the field testing, I felt that many teachers were not at ease in asking for help with teaching one of their students. Janet supported this feeling, "There's not a whole lot of interaction because, let's face it, I'm paid to do my own job, and they are too." However, seeking the help of another professional can prove to be extremely beneficial in many cases. In Janet's case it was easy for the math teacher to give one of her students a series of supplementary math tasks, to seek the assistance of a reading specialist for another student, and to involve a social worker in the guidance and counseling of a student with emotional problems.

Coordinating a learning experience with another teacher revolving around a field trip resulted in a positive experience for Janet. A field trip was planned to go to a large industrial machine production plant. The special education English teacher worked on filling out job applications while Janet emphasized citizenship, manners, and job expectations. "We worked closely to correlate the two classes, so it would be more than just taking a field trip. We both spent more time on it together this way," she explained.

At Site A, some of the special education teachers have formed a club for their E.M.H. students. The club requires each student to set a goal in each class. Meeting these goals entitles the members to participate in planning money making projects and other special activities. This represents another form of cooperation that wasn't specifically addressed in the modules.

The modules apparently increased her awareness of certain individual student needs. Janet explained,

> The inservice program made me more aware of what the particular students were actually doing and in need of. I helped them much more than I otherwise would have.

> The tendency is to get so bogged down with everything that one doesn't give particular attention or time when it's needed.

In many cases the special education teacher can serve in a supportive role to the regular class teacher. As handicapped students are being more frequently integrated into the regular classes, some teachers find that even in the "normal" classes there are those students who have special needs. The special education teacher is someone the classroom teacher can turn to when guidance is needed in teaching special needs students. Janet observed,

> I have been keeping closer tabs on these three students as to what they are doing in their other classes and relating those experiences to their experiences in my class and visa versa. I can see this being most beneficial to me in helping me plan for their future work.

When a teacher first comes in contact with a student who has special needs, the situation often seems to be an overwhelming problem. It is sometimes difficult to determine the logical steps needed in attempting to provide the proper support. Module 1 gives the teacher some concrete suggestions and tasks to carry out which aids in better understanding the student's needs and how his learning may be facilitated. Janet supported this by saying, "I think Module 1 has been quite helpful to me in working with Joe. It has made me understand how to work with him better. I intend to keep revising the prescription throughout the remainder of the year." By having an organized and systematic routine and carefully evaluating the student's strengths and weaknesses, the teacher can come up with a more meaningful picture of him.

> I feel Module 1 should be used with all special education students, especially experiences two and three. In reference to Inservice Experience 2, Developing a Learner Analysis Profile, I felt it provided an excellent form. It would be helpful for the special education team to use this form on every student in the program before developing our behavioral educational goals. This would be time consuming but of definite value.

The Learner Identification task (Inservice Experience 1) appeared to be an extremely easy procedure with much of the information already available in the student's folder. "I felt like all I was doing was copying down the information onto the forms, although it was good to review because you usually don't take time to review the student's folder as routinely as you should." Janet also suggested that, "More room could be provided for questions pertaining to scores from previous tests." When Janet submitted the Module 1 forms, she included a section on the "student's background." This helped me a great deal in understanding the student; and I feel that other teachers would benefit from a section where teachers could include their informal comments.

Because of the limited time factor, teachers were unable to become as involved in some tasks as they would have liked. This was true in Janet's case.

> I wish I had more time because I feel the Cluster Specification activity (Inservice Experience 7) would have been interesting to do, and it would have been especially valuable to pick out some of the lower types of jobs where the E.M.H. students could fit into the different cluster levels. This would definitely be something I'd do in the future because it would be of definite value.

Janet felt it was not only a valuable activity for those in special education, but could be extremely useful for vocational education teachers who had lower students. It seems this would have been an ideal place for the vocational and special education teacher to work cooperatively. "If the three of us (two other vocational education teachers) sat down with the Cluster Specification experience and did it for the different levels, it would have helped tremendously," Janet stated.

Task analysis of specific jobs was the activity on which Janet spent most of her time. After the specific job was chosen, it was broken down into all of the tasks involved in the job. Then each task was broken down with step-by-step instructions. "This is especially good to do for the retarded," Janet explained. This would be helpful to the student because he could become familiar with the job prior to his actual on-the-job experience. Janet is in the process of implementing this activity in her class. "At present I plan to do this for every student who is currently placed on-the-job, and make a library out of them, so when a new student starts a job, we can pull out a specific job from the file." For example, if one of Janet's students were planning to work in the local grocery store, the job of store clerk may have already been broken down into the actual tasks the employees would do, e.g. taking inventory. The tasks and required skills are identified prior to actually working on-the-job. Janet can go out with the student and assist him in learning the needed skills. Presently, students are helping to develop these skill sheets and writing their names on them so that following students can identify with those who have actually worked on-the-job. These experienced students can assist in the training of others. I felt that the process described by Janet would present a realistic picture of the job and its expectations.

Even though Janet was familiar with many of the concepts in the modules, it was her feeling that all the modules should be read in order before any of the experiences were begun. She noted, "Each module creates a basis for the following one." This suggests a summary based approach at the beginning of the course.

In many instances, teachers were unable to put into practice immediately all of the experiences introduced in the modules. It was interesting to hear how they were planning to implement tasks in the future. In closing, Janet commented:

> I feel this course has been very valuable. I have only hit the surface due to the time factor. There are many good ideas in the modules that can be used later. The whole approach is very meaningful and hopefully will be

> implemented more and more by teachers working with special needs students. I intend to continue the methods I've started in this class and hope to try out some of the other ideas later as I have time. I would like to take time this summer to go over everything and have time to develop and continue such experiences as the Career Cluster Analysis, (Inservice Experience 8) and Sequencing Instruction (Inservice Experience 9).

Fran

Module 1: Learner Idnetification and Analysis

  Experience 1: Collecting Student Identification Information

  Experience 2: Developing a Learner Analysis Profile

  Experience 3: Developing a Learning Prescription

Module 2: Cooperative Instructional Arrangements

  Experience 4: Developing a Cooperative Instructional Arrangement

Module 3: Instructional Resources

  Experience 5: Developing a Special Needs Resource Inventory

Module 4: Cluster and Career Clusters

  Experience 7: Specifying Career Clusters

Module 5: Instructional Planning

  Experience 10: Developing Instructional Modules

Fran is a part-time C.W.T. coordinator at one of the high schools at Site B. "I'm involved in teaching and placing students who have learning problems, limited skills, and motivational problems." She has a Master of Science degree in Home Economics Education and has been a vocational teacher and coordinator for thirteen years. Fran's reason for taking the course was to improve her classroom teaching skills.

Fran, being a vocational education teacher involved in co-op teaching, was already somewhat familiar with the modules dealing with career clusters, cluster analysis, community-school resources, and advisory committees (Modules 3 and 4). Fran's reactions to these activities were:

> Having forms to compile and organize information such as the school and community resources I considered valuable. I found that the easy accessibility of the listings was helpful, especially the phone numbers! However, these module activities weren't as valuable to me as something like the Learner Analysis Profile (Inservice Experience 2).

The Learner Analysis Profile seemed to be extremely helpful for many of these teachers. As Fran noted, ". . . it gave me some new insights into Jimmy's interests, abilities, and aptitudes." She went on to comment,

> It is interesting to see how some teachers cue in on strengths which others overlook. Dawn (special education teacher) and I pretty much agreed on most aspects. The coach saw some real potential and ability in Jimmy that Dawn and I hadn't known about which was exciting.

Another experience in Module 1, Developing a Learning Prescription, was an activity which Fran also considered valuable.

The concept of cooperative teaching seemed to have the strongest impression on teachers. Fran and Sandy, a special education teacher, worked cooperatively with one student, trying to plan curriculum in her E.M.H. class so that she could be moved into the C.W.T. program. Fran expressed positive feelings toward this aspect of the modules, "I liked the idea of working with Sandy, and the mutual arrangement of working with a student. I don't feel like I'm stranded with a student when a lot of problems arise." Cooperative teaching results in positive benefits for the individual student. Fran is preparing a paycheck analysis unit for second semester when Michelle enters C.W.T. from E.M.H. By planning ahead, Sandy can teach preliminary skills to Michells, so that she will be prepared for the unit, i.e. vocabulary terms, basic math skills, etc. Since the student's needs are known ahead of time, Fran is already attempting to find employment opportunities for Michelle so that Michelle can begin interviewing as soon as possible. By sharing a student, Fran may have experiences she otherwise would not have had. For example, Fran was aware of Michelle's capabilities, and when a finance company needed a temporary employee, Michelle had an opportunity to try it out.

> It is helpful and encouraging to know I will have the help and support from Sandy, Kathy, and George regarding Michelle. George (job placement coordinator for special education students) and I will work together to place her at a training station. I feel this course and the modules encourage teachers to look closer at the needs of the individual students. I also feel this course helped motivate teachers to make an extra effort.

Instead of feeling that it was inconvenient to seek advice or that it was a bother to other teachers, Fran was enthusiastic about working with others. "I was glad for this opportunity. We tend to get into our own world. I don't think I would ever really have seen Sandy without this course."

The ultimate goal of a teacher education program is to increase teacher skills. I feel this inservice course accomplished such a goal. As Fran suggested, "I feel the goal of this class was to help teachers help students, and that's exactly what this course did; but I would have felt better if I had taken half of it and done it well."

Ultimately, society will evaluate the special needs student, and it is the school's responsibility to do every thing it can to raise the student's competence. A combination of diverse skills from various teachers should be what the student receives. As Fran explains,

> Many people feel that you have to be careful in choosing students for work programs because these kids go out in the community and represent the school and its programs. I see vocational and special education working together as much as possible.

Fran's general reaction to the modules were that:

> In reading the modules I found them extremely well organized and informative. I can't say as yet I've used them extensively, but I can see that I will be using them as I continue to teach.
>
> I felt to do everything in the modules would be a great deal of work for one course, and really get into it. I think a teacher today needs as many resources, ideas, and methods as possible to draw upon, and this course and the modules provided this.

For those teachers, such as Fran, already involved with special needs students, the inservice program allowed them to focus on the individual student's needs and goals in preparation for their chosen vocational area.

Kay

Module 1: Learner Identification and Analysis
    Experience 1: Collecting Student Identification Information
    Experience 2: Developing a Learner Analysis Profile
    Experience 3: Developing a Learning Prescription
Module 2: Cooperative Instructional Arrangements
    Experience 4: Developing a Cooperative Instructional Arrangement
Module 3: Instructional Resources
    Experience 5: Developing a Special Needs Resource Inventory
Module 4: Cluster and Content Analysis
    Experience 7: Specifying Career Clusters
Module 5: Instructional Planning
    Experience 10: Developing Instructional Modules

Kay is a home economics teacher at a junior high school at Site B. In the five years that she has taught she feels she has worked with several special needs students. "I feel in many cases you still tend to get those students who are not academically inclined. You end up getting special education students and you have to know how to cope with this." Her main reason for taking the course was that she hoped it would force her to spend more time working cooperatively with the special education teachers. Even though the need for interaction is there, few teachers really feel comfortable doing such. As Kay stated: "I feel there is a vital need for special education and vocational education teachers to work together. More recently I have been consulting and talking with other teachers. Before, I don't think I would have done this."

Once the need for this cooperation is recognized, as beneficial as it may be to the student and teacher, the school setting does not always facilitate this concept of working together. Kay explained her situation as follows: "It is difficult for our crew to get together. I don't even see the other field test participants during school hours."

Kay also observed that it is not always encouraging to do things that stray from the standardized curriculum. To me, the modules provided a better insight into the individual special needs learner, and offered motivation to adapt or include curriculum for a specific student rather than fit the student into a standardized curriculum. However, when teaching a unit on foods, Kay was asked by the administration "How does this relate to foods?" when she wanted to do a unit on cancer and bring in a resource person from the Cancer Society. Even though this may have been a valuable unit for the special needs student she was working with, it was considered unrelated to the specific objectives of the course by the assistant principal. At times, philosophies may not always coincide. "My vitality and eagerness for field trips, programs, etc. has been stymied by the administration's response. Even so, the course did force you to take an interest in a student that you probably wouldn't have done otherwise," she stated.

The inservice sessions themselves may have been the place for interaction to have more actively occurred. Even though members broke into groups, it seemed like little constructive planning occurred. A suggestion might be to have each member give a presentation for ten or fifteen minutes, describing his work on a particular inservice experience from one module. If other inservice participants had previously been involved in such an activity or were familiar with the module, they could relate their previous experiences and indicate what was beneficial and what was not. These feelings were reflected by Kay:

> A personal testimony given by various teachers might be helpful. I personally would enjoy hearing how fellow teachers have succeeded or failed with particular students, ideas which they might have, and resources which have proven advantageous.

It was felt that if even more teachers were involved, more fruitful interaction would have taken place. By having an actively communicating group of inservice participants, a teacher may feel more inclined to try new things. As Kay explained, "I feel I needed the motivation of the total group interaction to help work through the modules. The size of all the modules seemed overwhelming, but they were extremely well written with helpful examples."

It was felt by the junior high teachers that some of the modules were geared to the high school level. "It was easy to implement the first modules, but the later ones which dealt with career clusters and job placement were not as applicable to this level," Kay stated. When asked what could be added to the modules to make them more applicable to junior high school, Kay's suggestion was to include

> . . . different kinds of experiences that junior high school students could do, that would give them a taste of the on-the-job work that may be helpful for career exploration. Since you can't get the students out on-the-job (because of age limitations), you have to bring the job and workers to them.

The modules appeared to be more applicable to special needs students with particular academic problems, which caused confusion for some teachers. Kay's observation was "I chose a girl with emotional problems, which really didn't fit in."

In 1977-1978, it is anticipated that this school district will switch to a middle school program. Kay felt that in the future, time will be given to teachers to get together and plan programs, and to do team teaching.

> For example, if the students were studying Russia, the geography teacher would teach terraine, the industrial arts teachers would talk about transportation and make a toboggan, the math teacher would talk about currency, and the home economics teacher would teach about different types of foods.

Although this involves curriculum content coordination instead of special services coordination, Kay feels "The modules will be a good carryover for us. We'll have teachers working together, planning programs, and constructing different thematic units."

Kay concluded by saying, "I think I am more conscious of implementing cooperative teaching. Presently, I am trying to set up a restaurant with another class."

Claude

Module 1: Learner Identification and Analysis
    Experience 2: Developing a Learner Analysis Profile
Module 2: Cooperative Instructional Arrangements
    Experience 4: Developing a Cooperative Instructional Arrangement
Module 5: Instructional Planning
    Experience 10: Developing Instructional Modules

Claude is a teacher/coordinator with twenty years of experience in teaching agri-business at one of the high schools at Site B. One of Claude's major concerns is that "Many students have difficulty coping in the community, and I, as a school representative, will receive the criticism. The activities the students perform in the community directly relate to what is learned in class."

The basic content of some of the module experiences such as Developing a Resource Inventory and Coordinating Work Experience Programs were already familiar to Claude, since he has been involved in placing students in the community for some time. Even so, Claude felt the inservice program was a valuable experience. "I picked up some ideas from the Cooperative Instructional Arrangement and I thought the Learner Analysis Profile was exceptionally good!" Claude has attempted to get other staff members involved in this type of team assessment, identifying strengths and weaknesses of particular students. "It puts a handle on some things to look for while involving other teachers," he stated.

Claude gives a good example of the need for identification of special needs students.

> The Learner Analysis Profile would have been valuable in a particular instance where one of our students had a job with a publishing firm in the shipping department. He eventually lost the job after costing the company quite a bit of money due to his limited reading ability. Here, a form such as the Learner Analysis Profile would have helped identify this weakness long ago. He's a kid that would have been caught up with.

A problem facing many teachers is that they rarely have the needed time to interact with one another. Claude's observation was "Having a school departmentalized makes needed cooperation difficult."

Even though Claude was familiar with the general concept of occupational clusters, he felt Module 4 was very worthwhile. "I feel this is the way career education should be going. It is helpful in identifying common skills applicable to all occupations within a cluster. It allows you to see the general information which could be taught in all programs."

The different instructional techniques (Module 5) and the learner prescriptions (Module 1) were felt to be valuable tools for teaching. Claude explained:

> It is important for the teacher to learn more about the individual special needs students and how his learning may be facilitated. Myself and the other staff saw this as being extremely useful. It allows you to approach the same thing differently . . . helps keep the task alive instead of it becoming old hat.

Claude's reaction to the student follow-up survey suggested in Module 7 was that one would be better off using the phone instead of the mail. "You don't tend to get responses from those kids NOT doing well, therefore the phone is better." He also suggested that by doing this type of follow-up, you still have the opportunity to counsel.

> For example, I was talking to one graduate who was working at a gas station. He was getting bored with working as a gas station attendant. His main interests are auto mechanics and racing cars, so I suggested he talk to a counselor at the local community college and try to get into their program. He seemed really interested in this area. This would never have happened if I hadn't followed up on this kid.

In closing, Claude stated, "This inservice program seemed to be extremely needed. Now, in vocational education, I find all my students having some sort of problems and in need of some type of special attention."

Linda

Module 1: Learner Identification and Analysis

Experience 1: Collecting Student Identification Information

Experience 2: Developing a Learner Analysis Profile

Experience 3: Developing a Learning Prescription

Module 2: Cooperative Instructional Arrangements

Experience 4: Developing a Cooperative Instructional Arrangement

Module 3: Instructional Resources

Experience 5: Developing a Special Needs Resource Inventory

Module 4: Cluster and Content Analysis

Experience 7: Specifying Career Clusters

Experience 8: Conducting a Career Cluster Analysis

Linda, who has three years of classroom experience, teaches a prevocational class for students in special education at a middle school at Site A. Her prevocational class is an experimental program. Instead of choosing one specific student, Linda adapted those modules that she felt could be modified to her entire class. Her reaction to the inservice program was a positive one. "I felt the modules were very adaptable and beneficial. Since my program is new, I needed some guidelines. I was able to use many of the forms and adapt them to my program."

Linda talked extensively about how she used each module experience.

> I thought the Cooperative Instructional Arrangement was very useful. I filled out this form for each seperate class in which the student is placed. I also expanded the section of Description of Specific Services or Instruction to be provided for the student.

Linda went on to outline a process whereby each week she has other teachers who have her student provide feedback describing what they are doing with the student, and a short evaluation of the student's progress or difficulty.

Linda also adapted the Student Information Form from Module 1 to her program. Some important points that she chose to add to the form were: permission to be tested, services previously received, home condition, attitude of parents, and adverse physical and emotional factors.

The Learner Analysis Profile was also utilized. "I thought it was quite good and indepth enough to be useful. You begin to generalize about a student after you've been with him awhile. I feel it's good to single out his weaknesses and strengths again."

Linda used the Learning Prescription activity quite extensively.

> This was beneficial because I could give it to other teachers who were involved with my student. It pinpoints efficient learning modes, and permits you to consider how the student learns best. It also reminds you of different things to try. As a result, I've begun using much more media in my instruction, such as filmstrips, cassettes, and the overhead projector.

The Resource Inventory is designed to provide a compact listing of useful sources to supplement the student's learning experience. In using Module 3, Linda made one general inventory for her program. She appeared to have contacted and become familiar with a number of different school district resources.

> I took a tour of the vocational center to see what the kids would be progressing on to, and what they needed to know. I also contacted people at the high school to see what kinds of things the students were doing. It was helpful to talk to the audiologist; now I'm going to have a student tested in two weeks. I also talked with the counselors to find out exactly what services they provide for the students.

Linda's key observation from Module 3 was that "In doing this activity, it makes you look deeper into what services you can get from each person. Sometimes you find resources you didn't know you had."

At the time of this post-field test interview, Linda was just becoming involved in implementing the module on Cluster and Content Analysis.

> This is fitting right into my program. It made me realize all the different jobs that are available. I chose those clusters and areas I thought were reasonable for them to work in. We go through

> one job at a time and all the skills required by that job. After we learn about the jobs, we have a session where we fill out job applications and the students take turns role playing the interviewer and the interviewee. At the end of the career analysis they choose one job they really like and do a more indepth study of it.

While some teachers felt this module was not appropriate for the junior high or middle school level, I feel it can be easily adapted to this level and used in simulated classroom activities as Linda has demonstrated.

Linda was utilizing many of the module activities when I visited her class. She concluded by stating that "While some of the activities had to be slightly modified, most fit into my program. I think the Career Cluster Analysis has helped the most."

Summary

The inservice program provided teachers with skills so that special needs students could be identified and brought to the attention of all the teachers involved. In addition, it provided teachers with a model for vocational preparation.

The degree to which the modules were used depended upon the previous experiences of the teachers. The modules are sequenced in such a way that they carry the teacher through the first steps of identifying the learner's special needs and leads to the final evaluation of his/her prevocational status. It was felt that each module provided the teachers with background information for the proceeding one. Hence, each module should be read as a prerequisite to the next.

The most frequently mentioned modules were 1, 2, 3, and 4. These included expereinces which identified the special needs student, pinpointed his strengths and weaknesses, and identified how the student's learning could be facilitated.

The Cluster and Content Analysis (Module 4) provided guidelines for identifying appropriate occupations for handicapped students and determining a realistic curriculum based on the student's capabilities.

The major criticism emerging from the interviews was that due to the limited period of the field testing, most teachers were unable to become as involved in the later modules. Modules 5 and 6 which focused on instructional implementation, could have provided more specific and detailed teaching suggestions and guidelines for instructional development. Module 7 would have given the teachers guidelines for assessing the achievement of special needs students.

The teachers interviewed agreed that support for these students can be provided by cooperative teaching between vocational and special education staff. The combination of their expertise, along with other school and community resources, allows the student to become involved in a wide variety of experiences. Overall, I felt this was the most important concept of the inservice program at both sites.

It is obvious from the teacher participation, feedback during the inservice field testing, and comments in these portrayals, that the programming outlined in the modules is greatly needed. Its major strength is that it provides a mode for combining the expertise of the special education and vocational education disciplines, and focuses them on the prevocational needs of the handicapped student.

APPENDIX S

FIELD TEST DESIGN DESCRIPTION

FIELD TEST DESIGN DESCRIPTION

Competency-Based Inservice Project
Vocational-Technical Education
University of Illinois
Urbana, Illinois 61801

Field Test Plan A

In field test plan A, an independent study, small-group directed inservice format was used to field test the inservice modules. The small groups were determined by identifying special needs students at different schools in the district who had regular or daily contact with the inservice participants. Cooperative instructional arrangements were established whereby both vocational and special education personnel agreed to work together with an identified student(s). These arrangements constituted the small groups or instructional teams

Three weekly class meetings of three hours each were held. These meetings were used to orient the participants to the format, content and intended use of each of the modules, plus introduce the "special needs" concept and deal with problems or issues of concern to the participants. At the third class meeting each team was asked to select the modules they would complete during the next 8 weeks. This selection (both in specific choice and number) was completely open to the preference of each instructional team.

It was suggested that each team devote at least 5-6 hours per week to cooperatively planning, implementing, and/or evaluating instruction for the identified special needs learner, as outlined in the module(s) they select. They were asked to submit an anticipated schedule for their weekly activities in order that participant-observers (graduate students), or the director could visit the instructional team meetings or instructional activities. The participants were also required to submit logs every three weeks which described and evaluated their completed inservice experiences, and documented the amount of time devoted to each activity.

In December one class meeting was held at which participants completed a workshop evaluation, and shared their instructional planning, implementing, and evaluating experiences with the class.

Field Test Plan B

In field test plan B a structured inservice workshop format was used to introduce and implement the inservice modules. The workshop participants met regularly for approximately 3 hours for 12 weeks, making a total of 36 hours of instructional time under the direct supervision of the developer of the inservice training materials. Approximately 1/2 of this instructional time was devoted to small group instruction and discussion. During the small group instruction, teams of vocational and special education personnel planned and evaluated instructional plans for selected special needs learners with whom they had daily instructional contact. The remaining instructional time was devoted to large group discussions of: (1) the specific needs of the workshop participants, (2) the definition of special needs, (3) principlee and concepts contained in the modules, (4) introduction and overview of all module inservice experiences, (5) general issues associated with the education of special needs learners, (6) resources, constraints, and processes within the district.

A time schedule was developed which was designed to permit all participants to complete all seven modules during the 12 weeks. The modules were introduced in their numbered sequence, one through seven. It was possible for participants to be concurrently involved in two modules at one time. As each participant completed a module, he/she was asked to complete and return a Module Feedback Instrument. All participants were also required to submit logs every three weeks which described and evaluated their inservice experiences, and documented the amount of time devoted to each module.

APPENDIX T

FIELD TEST EVALUATION MEMO TO PARTICIPANTS

y of Illinois at Urbana-Ch

College of Education
DEPARTMENT OF VOCATIONAL
AND TECHNICAL EDUCATION

345 Education Building
Urbana, Illinois 61801
(217) 333-0807

MEMO TO: Inservice Workshop Participants: VOTEC E399

FROM: L. Allen Phelps

RE: Formative Evaluation of Inservice Modules

DATE: October 5, 1975

During this course you will be using a series of inservice modules. These modules have been developed and pilot tested under a grant to the Department of Vocational and Technical Education from the U.S. Office of Education.

While the primary objective of this extramural course is to provide you with a meaningful and relevant inservice experience, a secondary purpose of the course is to have you evaluate the inservice modules. Your critical comments, reactions, and suggestions will be welcome at anytime! Throughout the semester you will be completing evaluation feedback forms on those modules which you and members of your instructional team complete. Also, you will be asked to maintain a brief, but complete log of the activities which you undertake. You are strongly encouraged to react critically and candidly to any part of the inservice modules or experiences at any time. Your sincere, candid, and honest assessment of the modules is essential for improving them for future use by other teachers. Without a critical, comprehensive evaluation from each of you this semester, it is unlikely that the modules will realize their maximum effectiveness.

You may be assured that your final grade for this course will be unaffected by your evaluation of the modules. Determination of final grades will be based solely upon the performance objectives and evaluation criteria for the course which you have received.

Finally, you should also be aware that subsequent revisions of the modules will acknowledge your efforts in field testing the materials this semester. Future editions of the modules will identify by name and school district, those individuals who are involved in implementing and evaluating (field testing) selected modules.

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